IIMA in HealthCare Management: Abstract of Publications (2000-2010)

K.V. Ramani
Poonam Trivedi
Imran Malek

W.P. No. 2010-04-04
April 2010

INDIAN INSTITUTE OF MANAGEMENT
AHMEDABAD-380 015
INDIA

IIMA in HealthCare Management: Abstract of Publications (2000-2010)

K.V. Ramani*, Poonam Trivedi*, Imran Malek**

Abstract

The Indian Institute of Management, Ahmedabad (IIMA), was established in 1961 as an autonomous institution by the Government of India in collaboration with the Government of Gujarat and Indian industry.

IIMA's involvement in the health sector started with the establishment of the Public Systems Group in 1975. In the initial period, our research focused on the management of primary healthcare services and family planning. We expanded our research activities to include the management of secondary healthcare services in the 80s and to tertiary healthcare services in the 90s. Currently our research interests focus on the governance and management issues in the areas on Rural Health, Urban Health, Public Health and Hospital Management.

In June 2004, IIMA Board approved the setting up of a Centre for Management Health Services (CMHS) in recognition of IIMA's contributions to the health sector in the past and the felt need to strengthen the management of health sector in the context of socio-economic developments of our country. The overall objectives of CMHS are to address the managerial challenges in the delivery of health services to respond to the needs of different segments of our population efficiently and effectively, build institutions of excellence in the health sector, and influence health policies and wider environments. All our research projects are externally funded and we have developed research collaborations with 15-20 international universities in USA, UK, Europe, and Asia. CMHS has also established strong linkages with the Ministry of Health and Family Welfare at the national and state government levels, particularly in the states of Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, Chattisgarh, Orissa, and Bihar.

This working paper is a compilation of the abstracts of all our publications in the last 10 years, which include 40 referred journal articles, 54 Working Papers, 19 Chapters in Books and 18 Case Studies.

Key words: Journal Articles, Working Papers, Chapters in Books, Case Studies.

---

* Centre for Management of Health Services (CMHS), Indian Institute of Management, Ahmedabad
* * On Internship from School of Public Health, SRM University, Chennai

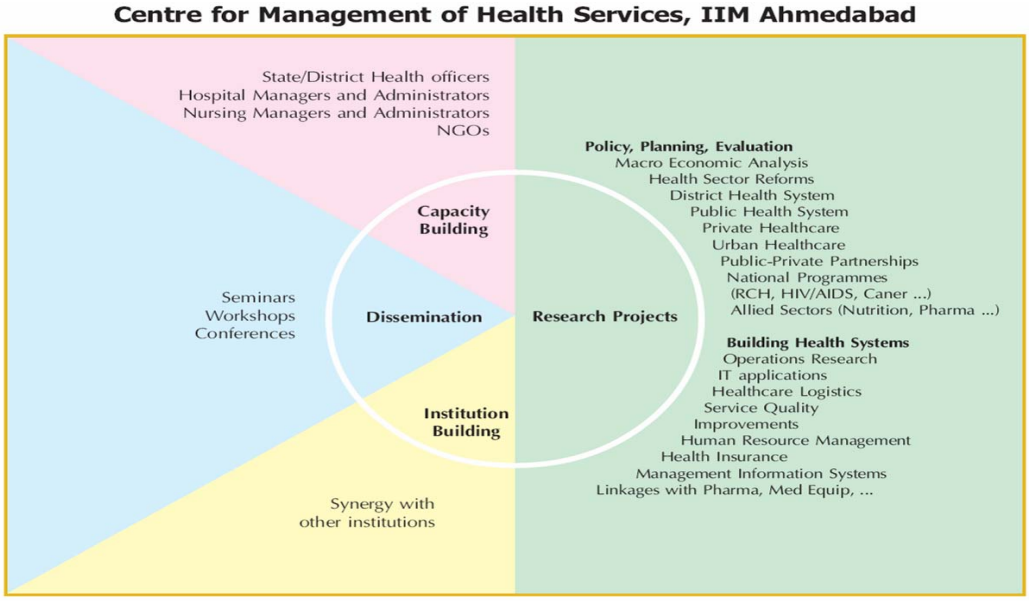
Contents

Chapter 1
Introduction

The Indian Institute of Management, Ahmedabad (IIMA), was established in 1961 as an autonomous institution by the Government of India in collaboration with the Government of Gujarat and Indian industry.

IIMA's involvement in the health sector started with the establishment of the Public Systems Group in 1975. In the initial period, our research focused on the management of primary healthcare services and family planning. We expanded our research activities to include the management of secondary healthcare services in the 80s and to tertiary healthcare services in the 90s. Currently our research interests focus on the governance and management issues in the areas on Rural Health, Urban Health, Public Health and Hospital Management.

In June 2004, IIMA Board approved the setting up of a Centre for Management Health Services (CMHS) in recognition of IIMA's contributions to the health sector in the past and the felt need to strengthen the management of health sector in the context of socio-economic developments of our country. The overall objectives of CMHS are to address the managerial challenges in the delivery of health services to respond to the needs of different segments of our population efficiently and effectively, build institutions of excellence in the health sector, and influence health policies and wider environments. All our research projects are externally funded and we have developed research collaborations with 15-20 international universities in USA, UK, Europe, and Asia. CMHS has also established strong linkages with the Ministry of Health and Family Welfare at the national and state government levels, particularly in the states of Gujarat, Maharashtra, Rajasthan, Madhya Pradesh, Chattisgarh, Orissa, and Bihar.



This working paper is a compilation of the abstracts of all our publications in the last 10 years, which include 40 referred journal articles, 54 Working Papers, 19 Chapters in Books and 18 Case Studies.

Chapter 2
Abstract of Journal Articles

Singh Amarjit et al, (2009): Singh Amarjit; Mavalankar Dileep; Bhat Ramesh ; Desai Ajesh; Patel S R; Singh Prabal V & Singh Neelu: "Providing Skilled Birth Attendants and Emergency Obstetric Care to The Poor Through Partnership with Private Sector Obstetricians in Gujarat, India", *Bulletin of the World Health Organization,* Vol.87, pp 960-964.

India has the world's largest number of maternal deaths estimated at 117,000 per year. The past efforts to provide skilled birth attendants and Emergency Obstetric care (EmOC) in rural areas have not succeeded because obstetricians are not willing to be posted in government hospitals at sub-district level. Thus there is a great shortage of skilled human resources to provide comprehensive EmOC in rural areas. Here we are documenting an innovative public-private partnership scheme with the private obstetricians practicing in rural areas to provide delivery care to the poor. This is a descriptive analysis of this scheme along with analysis of the secondary data .We have estimated the lives of the mothers and new-born saved due to the scheme using available data. The analysis shows that more than 800 obstetricians have joined the scheme and more than 176,000 poor women delivered in private facilities. We estimate that the coverage of deliveries among poor women under the scheme has increased from 27% to 53% between April and October 2007. The data also shows that there is substantial decline in maternal deaths and new born deaths as compared to the expected deaths in the poor beneficiaries of the scheme. This study of the government program shows that at least in some areas of India, it is possible to develop large scale partnership with private sector to provide skilled birth attendance and EmOC to poor women at a relatively small cost. Poor women will take up the benefit of skilled delivery care rapidly, if they do not have to pay for it.

Vora Kranti S et al, (2009): Vora Kranti S; Mavalankar Dileep; Ramani K. V; Upadhyaya Mudita; Sharma Bharati; Iyengar Sharad; Gupta Vikram and Iyengar Kirti: "Maternal Health Situation in India: A Case Study", *Journal of Health Population and Nutrition,* Vol.27, No.2, pp 184-201.

Since the beginning of the Safe Motherhood Initiative, India has accounted for at least a quarter of maternal deaths reported globally. India's goal is to lower maternal mortality to less than 100 per 100,000 live births but that is still far away despite its programmatic efforts and rapid economic progress over the past two decades. Geographical vastness and socio cultural diversity mean that maternal mortality varies across the states, and uniform implementation of health-sector reforms is not possible. The case study analyzes the trends in maternal mortality nationally, the maternal healthcare-delivery system at different levels, and the implementation of national maternal health programmes, including recent innovative strategies. It identifies the causes for limited success in improving maternal health and suggests measures to rectify them. It recommends better reporting of maternal deaths and implementation of evidence-based, focused strategies along with effective monitoring for rapid progress. It also stresses the need for regulation of the private sector and encourages

further public-private partnerships and policies, along with a strong political will and improved management capacity for improving maternal health.

Padmanaban P et al, (2009): Padmanaban P; Raman Parvathy Sankar and Mavalankar Dileep V: "Innovations and Challenges in Reducing Maternal Mortality in Tamil Nadu, India", *Journal of Health population and Nutrition,* Vol.27, No.2, pp 202-219.

Although India has made slow progress in reducing maternal mortality, progress in Tamil Nadu has been rapid. This case study documents how Tamil Nadu has taken initiatives to improve maternal health services leading to reduction in maternal morality from 380 in 1993 to 90 in 2007. Various initiatives include establishment of maternal death registration and audit, establishment and certification of comprehensive emergency obstetric and newborn-care centres, 24-hour x 7-day delivery services through posting of three staff nurses at the primary health centre level, and attracting medical officers to rural areas through incentives in terms of reserved seats in postgraduate studies and others. This is supported by the better management capacity at the state and district levels through dedicated public-health officers. Despite substantial progress, there is some scope for further improvement of quality of infrastructure and services. The paper draws out lessons for other states and countries in the region.

Mavalankar Dileep V et al, (2009): Mavalankar Dileep V; Vora Kranti S; Ramani K. V; Raman Parvathy; Sharma Bharati and Upadhyaya Mudita: "Maternal Health in Gujarat, India: A Case Study". *Journal of Health population and Nutrition,* Vol. 27, No.2, pp 235-248.

Gujarat state of India has come a long way in improving the health indicators since independence, but progress in reducing maternal mortality has been slow and largely unmeasured or documented. This case study identified several challenges for reducing the maternal mortality ratio, including lack of the managerial capacity, shortage of skilled human resources, non-availability of blood in rural areas, and infrastructural and supply bottlenecks. The Gujarat Government has taken several initiatives to improve maternal health services, such as partnership with private obstetricians to provide delivery care to poor women, a relatively-short training of medical officers and nurses to provide emergency obstetric care (EmOC), and an improved emergency transport system. However, several challenges still remain. Recommendations are made for expanding the management capacity for maternal health, operationalization of health facilities, and ensuring EmOC on 24/7 (24 hours a day, seven days a week) basis by posting nurse-midwives and trained medical officers for skilled care, ensuring availability of blood, and improving the registration and auditing of all maternal deaths. However, all these interventions can only take place if there are substantially increased political will and social awareness.

Ramani K.V et al, (2009): Ramani K. V; Mavalankar Dileep V and Govil Dipti: "Study of Blood-transfusion Services in Maharashtra and Gujarat States, India", *Journal of Health Population and Nutrition*, Vol. 27, No. 2, pp 259-270.

Blood-transfusion services are vital to maternal health because haemorrhage and anemia are major causes of maternal death in South Asia. Unfortunately, due to continued governmental negligence, blood-transfusion services in India are a highly-fragmented mix of competing independent and hospital-based blood-banks, serving the needs of urban populations. This paper aims to understand the existing systems of blood-transfusion services in India focusing on Maharashtra and Gujarat states. A mix of methodologies, including literature review (including government documents), analysis of management information system data, and interviews with key officials was used. Results of analysis showed that there are many managerial challenges in blood-transfusion services, which calls for strengthening the planning and monitoring of these services. Maharashtra provides a good model for improvement. Unless this is done, access to blood in rural areas may remain poor.

Ramani K.V and Mavalankar Dileep (2009): "Management Capacity Assessment for National Health Programs: A Study of RCH Program in India," *Journal of Health Organization and Management*, Vol.23, No. 1, pp 133-142.

This paper aims to focus on the management capacity assessment of the Reproductive and Child Health (RCH) program at the state level. This study is based on an extensive literature survey, and discussions with senior officers in charge of RCH program at the central and state level, the authors have developed a conceptual framework for management capacity assessment. Central to their framework are a few determinants of management capacity, a set of indicators to estimate these determinants, and a management capacity assessment tool to be administered by each state. A pilot survey of the management tool in a few states helped the authors to refine each instrument and finalize the same. A suitable management structure is suggested for effective management of the RCH program based on the population in each state. The study findings shows that assessment brought out the need to strengthen the planning and monitoring of RCH activities, HR management practices, and inter-departmental coordination. The Ministry of Health and Family Welfare, Government of India has accepted the management tool and asked each state to administer it. The recommended management structure is used as a guideline by each state to identify the capacity gaps and take necessary steps to augment its management capacity. The authors' framework to assess the management capacity of RCH program is very comprehensive, the management tool is easy to administer, and assessment of capacity gaps can be made quickly.

Mavalankar Dileep et al, (2009): Mavalankar Dileep; Singh Amarjit; Patel Sureshchandra R; Desai Ajesh; Singh Prabal V: "Saving Mothers and Newborns Through an Innovative Partnership with Private Sector Obstetricians: Chiranjeevi scheme of Gujarat, India," *International Journal of Gynecologist & Obstetrician*, Vol. 107, pp 271-276.

The objective of this study is to document an innovative public–private partnership between the government of Gujarat, India and private obstetricians in rural areas that provide delivery

care to the poor. This is a descriptive analysis of the scheme and analysis of secondary data. We estimate the lives of mothers and newborns potentially saved because of the scheme. The result of this study shows that more than 800 obstetricians have joined the scheme and more than 269 000 poor women have delivered in private facilities in 2 years. We estimate that the percentage of institutional deliveries among poor women increased from 27% to 48% between April 2007 and September 2008. In addition, there are fewer reported maternal and newborn deaths among the beneficiaries compared with the number of deaths expected in the absence of the scheme. This innovative program shows that, at least in some areas of India, it is possible to develop a large scale partnership with the private sector to provide skilled birth attendance and emergency obstetric care to poor women at a relatively low cost. This is one way of addressing the human resource deficit in the public sector in rural areas of low-income countries to achieve Millennium Development Goals 4 and 5. We also conclude that the skilled care thus provided can reduce maternal and neonatal mortality among the poor.

Mavalankar Dileep et al, (2009): Mavalankar Dileep; Callahan Katie; Sriram Veena; Singh Prabal; Desai Ajesh: "Where There is No Anesthetist – Increasing Capacity for Emergency Obstetric Care in Rural India: An Evaluation of a Pilot Program to Train General Doctors," *International Journal of Gynecologist & Obstetrician*, Vol. 107, pp 283-288.

The lack of anesthesia providers in rural public sector hospitals is a significant barrier to providing emergency obstetric care. In 2006, the state of Gujarat initiated the Life Saving Anesthetic Skills (LSAS) for Emergency Obstetric Care (EmOC) training program for medical offers (MOs). We evaluated the trained MOs' experience of the program, and identified factors leading to post-training performance. The sample was chosen to equally represent performing and nonperforming LSAS-trained MOs using purposive sampling qualitative interviews with trainees across Gujarat (n=14). Data on facility preparedness and monthly case load were also collected. The result of this study shows that being posted with a specialist anesthesiologist and with a cooperative EmOC provider increased the likelihood that the MOs would provide anesthesia. MOs who did not provide anesthesia were more likely to have been posted with a nonperforming or uncooperative EmOC provider and were more likely to have low confidence in their ability to provide anesthesia. Facilities were found to be under prepared to tackle emergency obstetric procedures. Program managers should consider extending the duration of the program and placing more emphasis on practical training. Posting doctors with cooperative and performing EmOC providers will significantly improve the effectiveness of the program. A separate team of program managers who plan, monitor, and solve the problems reported by the trained MOs would further enhance the success of scaling up the training program.

Mavalankar Dileep and Sriram Veena (2009): "Provision of Anaesthesia Services for Emergency Obstetric Care through task Shifting in South Asia", *Reproductive Health Matters*, Vol 17, No. 33, pp 21-31.

Anaesthesia is required for certain procedures in emergency obstetric care, such as caesarean section and the repair of ruptured uterus. Task shifting for provision of anaesthesia has been implemented in public sector rural hospitals of South Asia in recent years because of

significant shortages of anaesthetists, but there has been limited research on this issue. This paper reviews the literature on this topic and documents existing programmes for task shifting anaesthesia services to mid-level providers in South Asia to increase access to emergency obstetric care and reduce maternal mortality. We found that task shifting of anaesthesia services has been effective in expanding coverage and access to care in South Asia, but most programmes have not been implemented systematically as part of an overall human resources strategy. A comprehensive approach, to maximize the benefits of these programmes, calls for countries to appoint a director at national or state level who is responsible for the availability of anaesthesia services in rural areas; legal protections, licensing by a competent authority and registration to perform anaesthesia services, including prescription of anaesthesia drugs; supportive managerial arrangements, competency-based training, monitoring and evaluation; performance rewards, career structure and job clarity; adequate equipment and supplies; support from specialist anaesthetists and quality assurance for safety

Mavalankar Dileep et al, (2008): Mavalankar Dileep; Shastri Priya; Bandyopadhyay Tathagata; Parmar Jeram and Ramani Karaikurichi. V: "Increased Mortality Rate Associated with Chikungunya Epidemic, Ahmedabad, India," *Emerging Infectious Diseases*, Vol. 14, No. 3, pp 412-415.

In 2005–2006, Réunion Island in the Indian Ocean reported 266,000 cases of chikungunya; 254 were fatal (case-fatality rate 1/1,000). India reported 1.39 million cases of chikungunya fever in 2006 with no attributable deaths; Ahmedabad, India, reported 60,777 suspected chikungunya cases. To assess the effect of this epidemic, mortality rates in 2006 were compared with those in 2002–2005 for Ahmedabad (population 3.8 million). A total of 2,944 excess deaths occurred during the chikungunya epidemic (August–November 2006) when compared with the average number of deaths in the same months during the previous 4 years. These excess deaths may be attributable to this epidemic. However, a hidden or unexplained cause of death is also possible. Public health authorities should thoroughly investigate this increase in deaths associated with this epidemic and implement measures to prevent further epidemics of chikungunya.

Mavalankar Dileep et al, (2008): Mavalankar Dileep; Vora Kranti & Prakasamma M: "Achieving Millennium Development Goal 5: Is India Serious?" *Bulletin of the World Health Organization*, Vol. 86, No. 4, pp 243-244.

India has the largest number of births per year (27 million) in the world. With its high maternal mortality of about 300–500 per 100 000 births, about 75 000 to 150 000 maternal deaths occur every year in India.2, 3 This is about 20% of the global burden hence India's progress in reducing maternal deaths is crucial to the global achievement of Millennium Development Goal 5 (MDG 5). Why is India's maternal mortality high in spite of rapid economic growth? We believe the key reasons are political, administrative and managerial rather than a lack of technical knowledge.

Ramani K V et al, (2007): Ramani K. V; Mavalankar Dileep; Patel Amit and Mehandiratta Sweta: "A GIS Approach to Plan and Deliver Healthcare Services to Urban Poor A Public Private Partnership Model for Ahmedabad City, India," *International Journal of Pharmaceutical and Health care Marketing,* Vol.1, No.2, pp 159-173.

The Purpose of this study is to provide a public private partnership (PPP) model for urban health centres (UHC) in developing countries that can be useful for urban local governments and private service providers willing to enter into meaningful partnerships so as to improve primary healthcare services. This research is based on geographical information system methodology to identify suitable locations to address availability, access, affordability and equity concerns and to provide a practical framework for PPP for establishing UHC. The methodology involved survey and mapping of slum communities and private healthcare facilities. This research provides intricate details about planning healthcare services for urban poor, operational and managerial aspects of service provision and processes involved in PPP for urban health. The model is developed and tested for Ahmedabad city (sixth largest city in India) and may need a certain amount of customisation for application in other cities. The outcome of the research is a working model based on a set of legal documents (memorandum of understanding) signed by all the PPP stakeholders. This model is useful for planning and managing similar healthcare facilities in other cities with adequate context-specific modifications given the increasing importance of urban health. While a range of published work provides theoretical frameworks for PPPs in general and for urban health in particular, our model has field-tested all the steps for establishing a PPP model for solving urban health problems. The proposed UHC will start functioning in its new premises soon.

Ramani K. V and Mavalankar Dileep (2006):"Health System in India: Opportunities and Challenges for Improvement," *Journal of Health Organization and Management, UK,* Vol. 20, No. 6, pp 560-72.

The paper seeks to show that health and socio-economic developments are so closely intertwined that is impossible to achieve one without the other. This paper sees those building health systems that are responsive to community needs, particularly for the poor, requires politically difficult and administratively demanding choices. Health is a priority goal in its own right, as well as a central input into economic development and poverty reduction. This paper finds that, while the economic development in India has been gaining momentum over the last decade, the health system is at a crossroads today. Even though Government initiatives in public health have recorded some noteworthy successes over time, the Indian health system is ranked 118 among 191 WHO member countries on overall health performance. This working paper describes the status of the health system, discusses critical areas of management concerns, suggests a few health sector reform measures, and concludes by identifying the roles and responsibilities of various stakeholders for building health systems that are responsive to the community needs, particularly for the poor.

Koblinsky M et al, (2006): Koblinsky M; Mavalankar Dileep; Matthews Z; Hussein J; Achedi A; Anwar I; and Mridha M K: "Going to Scale with Professional Skilled Care,"*Lancet,* Maternal Health Series, September 2006, pp 41-50.

Because most women prefer professionally provided maternity care when they have access to it, and since the needed clinical interventions are well known, we discuss in their paper what is needed to move forward from apparent global stagnation in provision and use of maternal health care where maternal mortality is high. The main obstacles to the expansion of care are the dire scarcity of skilled providers and health-system infrastructure, substandard quality of care, and women's reluctance to use maternity care where there are high costs and poorly attuned services. To increase the supply of professional skilled birthing care, strategic decisions must be made in three areas: training, deployment, and retention of health workers. Based on results from simulations, teams of midwives and midwife assistants working in facilities could increase coverage of maternity care by up to 40% by 2015. Teams of providers are the efficient option, creating the possibility of scaling up as much as 10 times more quickly than would be the case with deployment of solo health workers in home deliveries with dedicated or multipurpose workers.

Ramani K. V (2006): "Managing Hospital Supplies: Process Reengineering at Gujarat Cancer Research Institute, India," *Journal of Health Organization and Management,* Vol. 20, No. 3, pp 218-26.

The Purpose of this study is to give an overview of the re-engineering of processes and structures at Gujarat Cancer Research Institute (GCRI), Ahmedabad. The methodology involved a general review of the design, development and implementation of reengineered systems in order to address concerns about the existing systems. The Findings of this study shows that GCRI is a comprehensive cancer care center with 550 beds and well equipped with modern diagnostic and treatment facilities. It serves about 200,000 outpatients and 16,000 inpatients annually. The approach to a better management of hospital supplies led to the design, development, and implementation of an IT-based reengineered and integrated purchase and inventory management system. The new system has given GCRI a saving of about 8 percent of its annual costs of purchases, and improved the availability of materials to the user departments. Originality shows that the savings obtained are used not only for buying more hospital supplies, but also to buy better quality of hospital supplies, and thereby satisfactorily address the GCRI responsibility towards meeting its social obligations for cancer care.

Bhat Ramesh and Jain Nishant (2006): "Analysis of Public and Private Healthcare Expenditures," *Economic and Political Weekly,* Vol. 41, No. 1, (January 7, 2006).

The basic objective of healthcare systems is to meet a country's health needs in the most equitable and efficient manner, while remaining financially sustainable. Each country, given the historical evolution of its healthcare system, adopts different strategies to achieve these goals. The financing of healthcare through public and/or private channels is one important component of this strategy, as it has a significant bearing on the way healthcare is delivered and also has implications for the health policy goals of equity, efficiency and sustainability.

Understanding what determines these expenditures is important from the viewpoint of health policy. This paper examines the relationship between income and public and private healthcare expenditures.

Bhat Ramesh and Saha Somen (2005): "Financing Issues in Proposed HIV/AIDS Intervention of Providing Anti-Retroviral Drugs to Selected Regions in India," *Economic and Political Weekly*, pp 1640, (2005-04-16).

The development of anti-retroviral therapy has given new hope for people living with the acquired immuno deficiency syndrome. The government of India has initiated anti-retroviral treatment as a part of the national public health programme in six high-prevalence states. This paper aims to examine the financial implications of initiating anti-retroviral therapy programme in the country. It highlights the importance of infrastructure and logistic requirements for developing a comprehensive treatment programme for the affected population. Finally, the paper estimates the broad financial implications of the anti-retroviral therapy under different treatment scenarios. The estimated financial requirements for treatment vary from Rs 92 crore per annum if 4,00,000 HIV/AIDS cases are covered to Rs 1,008 crore per annum if all four million patients are screened. Against this, when the programme was started the National Aids Control Organisation had allocated a total of Rs 113 crore for the treatment part of this intervention. Even under the most conservative estimate, achieving the treatment target in India with this budget will be a challenging task.

D Cruz Premilla (2005): "The Influence of HIV Concordance and Discordance on Marital Life," *International Social Work*, Vol. 48, No.5, pp 581-92.

Studies on the implications of HIV concordance and discordance focus largely on the sexual aspect, that is, they examine how sexual relations between couples are affected by the virus. Only a few published works examine marital and family experiences within the context of discordance. For example, Vandevanter (1999) reported breaches of trust in the marital relationship with adverse implications for communication. Complications in decisions about reproduction included the pain of not having children as well as of accepting the risk of having an HIV-positive child. Anxiety about the future of the family led to discussions and planning ahead. Participants in Tangmunkongvorakul et al.'s (1999) study in Thailand stated that while disclosure of HIV status could lead to marital dissolution, the duration of the partnership was a major influence. Women's decision-making was heavily influenced by their natal homes and played a role in whether they stayed on with their spouses or returned to their families of origin. Perceived stigma affected the extent of emotional and financial support families received, with negative effects for coping. Comparisons of the effects of concordance and discordance on family life appear to be virtually absent. This article, drawing from a study examining the family experience of HIV/AIDS in Mumbai, India, describes and compares the experiences of four concordant and three discordant couples.

Maheshwari Sunil. Kumar et al, (2005): Maheshwari Sunil Kumar; Bhat Ramesh and Saha Somen: "Directions for Reforms in the Health Sector: Lessons from a State in India," *Health and Development*, Vol. 1, No.2-3 (April-September 2005), pp 33-51.

Meeting the health care needs of population goes beyond mere budget allocations. The organisation of programmes and commitment of people working in the health sector has significant bearing on sector performance and its reform process. The reform process, among other things, intrinsically makes some fundamental assumptions: high organisational commitment of health care providers, high professional commitment of health care providers and adequate skills of health care providers. The current paper attempts to analyse the HR practices in Madhya Pradesh and its implications on commitment of the health officials. The findings of the study indicate that district health officials do not share strong emotional bond with the department which is likely to affect their willingness to take initiative. The findings suggest the need to consult senior doctors in staffing decisions in order to develop a sense of belongingness in the mind of the health officials. The study suggests investing in development of multiple strategies for the growth and career development of health professionals. The study also advocates the need for intense socialisation among health professionals to facilitate the effective implementation of reforms. Finally the study advocates the need to develop informal channels of communications and networking among various health providers.

Mavalankar Dileep and Rosenfield A (2005): "Maternal Mortality in Resource Poor Settings: Policy Barriers to Care," *American Journal of Public Health*, Vol. 95, No. 02, pp 200-3.

Maternal mortality remains one of the most daunting public health problems in resource-poor settings, and reductions in maternal mortality have been identified as a prominent component of the United Nations Millennium Development Goals. The World Health Organization estimates that 515000 women die each year from pregnancy-related causes, and almost all of these deaths occur in developing countries. Evidence has shown that access to and utilization of high-quality emergency obstetric care (EmOC) is central to efforts aimed at reducing maternal mortality. We analyzed health care policies that restrict access to life-saving EmOC in most resource-poor settings, focusing on examples from rural India, a country of more than 1 billion people that contributes approximately 20% to 24% of the world's maternal deaths.

Bhat Ramesh and Maheshwari Sunil. Kumar (2005): "Human Resource Issues and its Implications for Health Sector Reforms," *Journal of Health Management*, Vol. 7, No. 1, pp 1-39.

Given the growing complexities and challenges it faces, reforms in the health sector are inevitable. They generally focus on making the health systems responsive through strengthening financial systems, ensuring local participation and public–private partnerships, and autonomy of health facilities. It is only through these reforms that deficiencies in the health sector can be addressed. The process is also likely to help in developing strategies that ensure effectiveness and efficiency of resource use. However, the reform process makes some fundamental assumptions about the intrinsic organisational and professional

commitment and availability of skilled and competent health care professionals. This paper examines the commitment of district-level health officials in the new state of Chhattisgarh in India. Since development-oriented human resource practices are powerful tools that commit health professionals to enhance the quality of care, we believe that health sector reforms should concentrate on human resource issues and practices more than ever. This paper attempts to examine the following issues: (a) the status of professional and organisational commitment and the technical competencies of health officials managing the sector; (b) the characteristics of human resource management practices in the health sector in Chhattisgarh; and (c) the linkage of these management practices with professional and organisational commitment. Finally, the paper discusses the implications of these issues in the health sector reform process.

Bhat Ramesh and Babu Sumesh. K (2004): "Health Insurance and Third Party Administrators: Issues and Challenges,"*Economic and Political Weekly,* Vol. 39, No. 28, pp 3149- 59.

The Insurance Regulatory and Development Authority in India has paved the way for insurance intermediaries such as third party administrators (TPAs) to play a pivotal role in setting up managed healthcare systems. TPAs have been set up to ensure better services to policyholders and to mitigate some of the negative consequences of private health insurance. However, given the demand and supply-side complexities of private health insurance and healthcare markets, insurance intermediaries face immense challenges. IRDA has defined the role of TPAs as one of managing claims and reimbursement. Their role in controlling costs of healthcare and ensuring appropriate quality of care is less well-defined.

Bhat Ramesh and Saha Somen (2004): "Healthcare Proposals: Health Insurance. Not a Panacea," *Economic and Political Weekly,* Vol.39, No. 33, pp 3149-59.

The National Common Minimum Programme (CMP) of UPA government argues for building a stronger health system. The first budget of the UPA government has presented broad guidelines on the government's plan to address these issues. However, translating these policies into actions remains major challenge. The rationale for making the scheme exclusively for people living BPL is not well understood as it is vulnerable to make the composition of the subscriber pool steeply skewed towards those with very high health risk. Expanding the insurance services without considering whether medical services are available or not is sure way of making the scheme dysfunctional from the beginning. Cost and quality of these services are other important factors. First, there is necessity of developing a greater accountability of sources and utilisation of the fund. One of the areas that need immediate attention in implementing the vision envisaged in the National Health Policy (NHP) is reforming existing institutional structure of the healthcare delivery system. In order to address the centre-state relationships in health effectively, the government of India should set up a public health commission it will implement all centrally sponsored programmes. The government should set up health financing unit having capacities to undertake research, policy development, and dissemination work. In view of these the government should take proactive steps to strengthen the public healthcare delivery system so that it caters to the poor better.

Bhat Ramesh and Saha Somen (2004): "South Africa and AIDS Epidemic: Diagnosis,"*Vikalpa: The Journal for Decision Makers*, Vol. 29, No. 3 (July-September 2004), pp 137-41.

The case deals with the HIV/AIDS epidemic in South Africa. To address this issue, countries generally resort to three broad interventions and strategies: prevention, treatment, and research. Managing each intervention effectively is generally confronted with three main challenges: technical, financial, and managerial (including political commitment). The present case addresses the challenge of financing the HIV/AIDS intervention because of the position taken by Pharmaceutical companies on prices of antiretroviral drugs and intellectual property rights. Increasingly, developing countries around the world are exploring the options of providing antiretroviral therapy to affected persons as a part of their public health programme. The case also describes the changed global scenario in terms of increased political and financial commitment to control the epidemic and the changed position of pharmaceutical companies on the drug price issues.

Mavalankar Dileep et al, (2004): Mavalankar Dileep; Raman Parvathy; Dwivedi H; and Jain M L: "Managing Equipment for Emergency Obstetric Care in Rural Hospitals", *International Journal of Gynaecology and Obstetrics*, Vol. 87, No. 04, pp 88-97.

In resource-poor countries, substantial sums of money from governments and international donors are used to purchase equipment for health facilities. WHO estimates that 50–80% of such equipment remains non-functional. This article is based on experience from various projects in developing countries in Asia and Africa. The key issues in the purchase, distribution, installation, management and maintenance of equipment for emergency obstetric care (EmOC) services are identified and discussed. Some positive examples are described to show how common equipment management problems are solved.

Ramani K.V (2004): "A Management Information System to Plan and Monitor the Delivery of Healthcare Services in Government Hospitals in India." *Journal of Health Organization and Management*, Vol. 18, No. 03, 04, pp 207-20.

Governments all over the world are getting increasingly concerned about their ability to meet their social obligations in the health sector. In this paper, we discuss the design and development of a management information system (MIS) to plan and monitor the delivery of healthcare services in government hospitals in India. Our MIS design is based on an understanding of the working of several municipal, district, and state government hospitals. In order to understand the magnitude and complexity of various issues faced by the government hospitals, we analyze the working of three large tertiary care hospitals administered by the Ahmedabad Municipal Corporation. The hospital managers are very concerned about the lack of hospital infrastructure and resources to provide a satisfactory level of service. Equally concerned are the government administrators who have limited financial resources to offer healthcare services at subsidized rates. A comprehensive hospital MIS is thus necessary to plan and monitor the delivery of hospital services efficiently and effectively.

Mavalankar D. V (2003): "Quality of Care in Institutional Deliveries: The Paradox of the Dominican Republic: A Commentary on Management," *International Journal of Gynaecology and Obstetrics,* Vol. 82, No. 2003, pp 107-10.

The paper is commentary of article on Averting maternal deaths and disability, Quality of Care in Institutional Deliveries: The Paradox of the Dominican Republic by Miller and colleagues. This paper is based on a strategic assessment of the maternal health services in the Dominican Republic (DR). It provides interesting insights into the quality of obstetric care by direct observation of the process of service delivery, as well the perceptions of patients, clinical staff and other stakeholders. It shows that several management problems constrain the delivery of high quality services. In the absence of quality of care, institutional delivery alone can reduce maternal mortality only up to a point. Governments in many countries are developing strategies to increase institutional delivery as means to reduce MMR, so this is an important limitation.

Ramani K. V (2002): "Scheduling Doctors. Activities at a Large Teaching Hospital," *Production and Inventory Management Journal,* First/Second Quarter (2002), pp 56-62.

The medicine department at Christian Medical College and Hospital serves the largest number of outpatients and inpatients, and is very well known for its contributions to research and clinical teaching in medicine. Analysis is focused on scheduling the activities of doctors in that department. A comparison of the existing schedule with a revised schedule of activities brings out the superiority of the revised schedule clearly. However, doctors will have to reorient their working style to adopt the revised schedule. Any change requires time, energy, enthusiasm, and dedication from all employees.

Mavalankar D. V (2002): "Policy and Management Constraints on Access to and Use of Life-Saving Emergency Obstetric Care in India: A Commentary," *Journal of the American Medical Women's Association,* Vol. 57, No. 3, pp 165-66.

Maternal mortality is still very high in India and the developing world. India's maternal mortality ratio is about 540 deaths per 100000 live births. Poverty and lack of resources contribute to this, but the main reasons for such high maternal mortality are policy barriers and management problems that impede access to good-quality emergency obstetric care in rural areas. The government policy does not encourage training general practitioners to provide cesarean sections, even when there are very few specialists available in rural and remote areas. Nurses are also prohibited from providing such basic emergency care procedures as intravenous oxytocics, antibiotics, and anticonvulsants. The doctors, nurses, and other hospital staff in managerial positions are not trained in modern management skills, which contributes to poor-quality services. The situation can be improved by training existing medical staff to provide emergency obstetric services in rural areas and training hospital managers in management skills. International aid organizations and women doctors should lobby for such policy changes, which will help increase access and quality of emergency obstetric care.

Mavalankar D. V and Abrue E (2002): "Concepts and Techniques for Planning and Implementing a Programme for Renovations of an emergency Obsteric Care Facility,"*International Journal of Gynecology and Obstetrics,* Vol. 78, No. 2002, pp 263-73.

As emergency obstetric care (EmOC) services are being upgraded, many health planners are considering structural changes to the health facility. Preparing for a renovation is a long process which involves three phases: assessment, planning and implementation. Input from many sources during the course of this process is important. Some design objectives, simple planning techniques and cost considerations are presented. In this paper we discuss some of the critical aspects (based on published literature) in assessing, planning and implementing renovations at an EmOC facility. The actual in-the-field experience of renovations and repairs will be explored in a second paper in this issue.

Dwivedi H et al, (2002): Dwivedi H; Mavalankar D; Abrue E; and Srinivasan V : "Planning and Implementing a Programme of Renovations of Emergency Obsteric Care Facilities: Experience in Rajasthan, India," *International Journal of Gynaecology and Obstetrics,* Vol. 78, pp 283-91.

Even though many governments and donors are now putting resources into upgrading facilities, the study of the renovation process is one of the most neglected aspects of quality improvement in emergency obstetric care (EmOC). In a previous publication, we discussed basic concepts and simple techniques to assess, plan and implement renovations. Here we focus on actual in-the-field experiences of the renovation process initiated by the health system in Rajasthan, India and the valuable lessons obtained from it. With the advice of the technical members of the Averting Maternal Death and Disability Program (AMDD) and the United Nations Population Fund (UNFPA), the facilities achieved noticeable changes in the physical infrastructure. As a result, the quality of EmOC services improved. We analyze these experiences critically and draw out lessons which may be instructive for future renovation efforts.

Bhat Ramesh and Reuben Élan (2002): "Management of Claims and Reimbursements: The Case of Mediclaim Insurance Policy," *Vikalpa: The Journal for Decision Makers,* Vol. 27, No.4, pp 15-28.

Mediclaim insurance run by government owned insurance company General Insurance Corporation of India (GIC) is the only private voluntary health insurance scheme available in India currently. This scheme has been in operation since 1986 and from time to time a number of revisions have been carried out to address the needs of their clients. The documentation on claims and reimbursement of this scheme is scanty. This paper analyses 621 claims and reimbursements data pertaining to policy initiation years 1997-98 and 1998-99 of Ahmedabad branch of one of the subsidiary companies of the General Insurance Corporation of India. The analysis suggests that the number of policies and premiums collected have grown at significant rates, more than 30 per cent during 1998-99 and 50 per cent during the year 1999-00. The growth had implications for the management of scheme in terms of problems of adverse selection or provider induced demand and falling premiums per

insured person. It was found that the number of claims increased by about 93 per cent during the year 1998-99 when polices sold grew at 32 per cent. The study estimates that about 1/3rd of claim amount increase is because of the problems of adverse selection or provider induced demand. The analysis of break-up of reimbursements suggests that about 40 per cent of reimbursements are made towards doctor's fees. This is followed by diagnostic charges, which accounts for about 30 per cent. This makes the insurance claims highly vulnerable to provider-induced use of resources. The findings also suggest that the insurance company took on an average 121 days to settle the claim. It is pointed out given the demand side and supply side imperfections in the healthcare markets and absence of appropriate regulatory mechanisms in place, the Insurance and Development Regulatory Authority's proposal to ensure payment settlement within 7 days is highly ambitious. The study also analyses reasons for the delay and cases where reimbursements have been less than claims submitted.

Ramani K. V (2001): "A DSS Enabled Materials Management Process at MP Trust Hospital," *Production and Inventory Management Journal,* First Quarter, 2001, Vol. 42, No. 1, pp 1-11.

MP Trust Hospital in the state of Gujarat, India, provides special care for patients with kidney-related ailments. Established in 1978, the hospital has created about 70,000 new patients and performed about 800 kidney transplants. The load on hospital services has been steadily increasing over the years. The operating surplus, however, declined sharply during the 1993-94 to 1997-98 period, causing hospital management considerable concern about the hospital's ability to provide high-quality medical services. In this article, the integration of the hospital's stores, purchase, accounts, and user departments into a DSS-enabled materials management process is described. The savings produced by this integration - 12-15% of the hospital's annual purchase costs - allowed the hospital to continue offering cost-effective, high-quality medical services.

Bhat Ramesh et al, (2001): Bhat Ramesh; Verma B B; and Reuben Élan: "Hospital Efficiency: An Empirical Analysis of District Hospitals and Grant-in-aid Hospitals in Gujarat," *Journal of Health Management,* Vol. 3, No. 2, pp 167-97.

This study focuses on analysing the hospital efficiency of district-level government hospitals and grant-in-aid hospitals in Gujarat. The study attempts to provide an overview of the general status of the health care services provided by hospitals in the state of Gujarat in terms of their technical and allocative efficiency. One of the two thrusts behind addressing the issue of efficiency was to take stock of the state of health care services (in terms of efficiency) provided by grant-in-aid hospitals and district hospitals in this state. The motivation behind addressing the efficiency issue is to provide an empirical analysis of the government's policy to provide grants to not-for-profit institutions to ensure the provision of hospital care in the state. The study compares the efficiency of grant-in-aid hospitals and public hospitals. This comparison between grant-in-aid hospitals and district hospitals in terms of their efficiency has been of interest to many researchers in countries other than India, and no consensus has been reached so far as to which category is more efficient. The relative efficiency of government and the not-for- profit sectors has been reviewed in this article. It is expected that the findings of the study would be useful to evaluate this policy and help policy makers to develop benchmarks in providing grants to such institutions.

Dholakia A R and Dholakia R H (2001): "Budgetary Subsidies in the Health Sector: The Case of Gujarat," *Journal of Health Management,* Vol. 3, No. 2, pp 239-59.

In this article, budgetary subsidies in the health sector in Gujarat are estimated by following the methodology of the discussion paper on subsidies (Government of India [GOI (1997)] after duly recognising several problems with it. The 1997 methodology includes both the explicit and implicit subsidies for the merit and non-merit sub-sectors in the state. These subsidies are estimated for the years 1995-96 to 1999-2000. The cost recovery rates in the health sector are also estimated and compared to the major states in the country. Gujarat's case is comparable to other major states in the health sector. Implicit subsidies are more dominant than the explicit subsidies in this sector. Very low-cost recovery rates in the sector are associated with serious problems in the public provision of health care services in the state. After briefly discussing some of these problems, required reforms to reduce the subsidies in this sector are suggested.

Bhat Ramesh et al, (2001): Bhat Ramesh; Verma B B; and Reuben Élan: "A Note on Data Envelopment Analysis [DEA]," *Journal of Health Management,* Vol. 3, No. 2, pp 309-28.

Measurement of efficiency of any organisation (e.g., hospital, bank, etc.) that uses multiple inputs and generates multiple outputs is complex and comparisons across units are difficult. Charnes and Cooper (1985) describe a non-parametric approach in such situations to measure efficiency and the technique is known as data envelopment analysis (DEA). This analysis method is basically a linear programming-based technique used for measuring the relative performance of organisational units where the presence of multiple inputs and outputs makes comparisons difficult. It involves identification of units, which in relative sense use the inputs for the given outputs in the most optimal manner; DEA uses this information to construct efficiency frontiers over the data of available organisation units. This efficient frontier is used to calculate the efficiencies of the other organisation units that do not fall on the efficient frontier and provide information on which units are not using inputs efficiently. The objective of this article is to introduce the technique and demonstrate it through an example to show how relative efficiencies can be determined and identify units that are relatively less efficient.

Bhat Ramesh (2001): "Evaluating Financing Options to Strengthen Ambulance Services," *Journal of Health Management,* Vol. 3, No. 2, pp 329-41.

The provision of ambulance services in remote areas is an important policy intervention to strengthen the referral system and improve the quality of emergency care. The financial requirements resulting out of capital costs and operating expenses are considerable. Given the financial constraints facing state governments in India, departments of health need to explore alternative options. In this article we discuss the options of owning, leasing or hiring of vehicles. We also examine that if the facility has to be self-sustaining, what should be the fees collected from the users of these services. We also discuss policy implementation issues of protecting the poor from high financial burdens and suggest an overall cap on total charges and exempting indigent patients. The role of local governments such as panchayats in creating contingency funds to meet the needs of the poor and developing appropriate

exemption policies is considered important to sustain these services. The approach suggested in this article is an illustrative one and results would change depending on what numbers are used in analysis. These numbers are also expected to change from situation to situation. The spreadsheet used in this analysis can be obtained from the author on request.

Sriram M S (2001): "Nagar Panchayat Hospital," *Vikalpa: The Journal for Decision Makers,* Vol.26, No.1, pp 73-82.

The case discusses the issues of autonomy and accountability in the healthcare division of a local self-government. It highlights the underlying tension between the elected representatives' need to control the division and the executive's need for basic functional and financial autonomy in developing and maintaining the division as a useful and responsive facility to the public. It raises questions as to the concept of cost and responsibility centres in local self-governments and what happens when one of the responsibility centres starts generating revenue and becomes a truly profit centre. Since the basic nature of the service is more of a responsibility — do the surpluses generated by the new profit centre get ploughed back to the same facility or should it get into the general pool of the Panchayat? If the argument is that it should be ploughed back to the responsibility centre to improve the overall facilities of the division, then should the objectives of the division be redefined and what should be the most appropriate institutional mechanism to grant autonomy for a division that is doing well? How would these mechanisms work in the long run? The case tries to sensitize the discussants to the issues and tensions that emerge in a well-managed division of a local-self-government. It also raises the larger issue of autonomy and accountability in democratic institutions.

Bhat Ramesh (2000): "Issues in Health: Public-Private Partnerships," *Economic and Political Weekly,* Vol. 35, No.53, pp 4706-16.

With shrinking budgetary support and fiscal problems, most state governments are finding it difficult to expand their public facilities to cater to the growing health care needs of their populations. In terms of resource allocation, the areas which have suffered most are secondary and tertiary care. The difficulties experienced in providing health care specifically in these areas have compelled many state governments to explore alternative options. Having experienced significant growth in private sector at curative primary and secondary care, some of the state governments are exploring the options of promoting public-private partnerships (PPPs) in health sector. Most of these options are in curative, tertiary care and in the provision of services in remote areas. The objective of this paper is to discuss and analyse the policy initiatives of selected state governments and the ministry of health and family welfare of the central government. Section I describes the policy context and discusses health financing scenario in India. In Section II, various initiatives of state and central governments have been described in brief. The cases discussed in this paper do not constitute an exhaustive list of all PPPs. Cases, primarily selected based on the availability of data have been used to describe the broad nature of the PPPs initiated by government agencies. The last section discusses the implications and summarises the key issues and prospects of developing such public-private partnerships in India.

Bhat Ramesh (2000): "Initiatives to Invite Private Capital Through Public-Private Partnerships in Social Sectors: Some Experiences from the Health Sector," *Vikalpa: The Journal for Decision Makers,* Vol. 25, No. 3, pp 37-48.

This paper discusses and analyses the issues and policy options in taking initiatives to invite private capital through public-private partnerships with particular reference to health sector. Shrinking budgetary support and fiscal problems make it difficult for the state governments to increase their budgetary allocations to social sectors like health, education, etc. It is in this context that the paper argues that there is a need evolve a proper policy which would address the question of public-private mix, scope of private-public partnerships, role of subsidies and incentives in promoting these partnerships and so on. The paper points out that there is a need to have explicit, transparent and adequate mechanisms which ensure involvement of all stakeholders in the process.

Chapter 3
Abstract of Working Papers

Sharma Bharti et al, (2010): Sharma Bharti; Roy Sweta; Mavalankar Dileep; Ranjan Pallavi, Trivedi Poonam: "The Role of the District Public Health Nurses: A Study from Gujarat" Working Paper No.2010-02-04, IIM Ahmedabad.

The role of District Public Health Nurses (DPHN) and District Public Health Nurse Officers (DPHNOs) as supervisors of the Public Health nursing and midwifery staff in a district was investigated. Thirteen DPHNs and DPHNOs from six districts selected from six geographic zones of Gujarat were observed for one week using the time motion method. Their activities and time spent were noted and the DPHNs/DPHNOs and their supervisors were interviewed. The role of the DPHNs has reduced over the years because they have not been assigned new roles with change in programmes and policies. Most of the DPHNs have training for clinical work in hospitals. Their 10 month training to qualify for PHN is inadequate to develop knowledge and skills in public health. There is a gap between their training and posting due to delays in government procedures of promotion. The DPHN/DPHNOs spend majority of their time in the office (49%) where they have a limited role. Their supervisory role for nurses and midwives has lost its importance. They spend about 1/3rd of their time in field supervision mostly visiting centres accessible by public transport as they do not have an allotted government vehicle. As they do not submit any field report, there is no follow-up action from their visit. Nevertheless they seem to have an important role in solving problems of field workers as they are mediators between the district and peripheral facilities. To conclude the DPHNs are under utilized which affects the quality of maternal and child health services in the district.

Ramani K. V et al, (2010): Ramani K. V; Mavalankar Dileep; Puwar Tapashvi; Joshi Sanjay; Kumar Harish; Malek Imran: "Why Should 5000 Children Die in India Every Day? Major Causes and Managerial Challenges," Working Paper No.2010-02-01, IIM Ahmedabad.

Globally, more than 10 million children under 5 years of age, die every year (20 children per minute), most from preventable causes, and almost all in poor countries. Major causes of child death include neonatal disorders (death within 28 days of birth), Diarrhoea, pneumonia, and measles. Malnutrition accounts for almost 35 % of childhood diseases. India alone accounts for almost 5000 child deaths under 5 years old (U5) every day. India's child heath indicators are poor even compared with our Asian neighbours, namely Malaysia, Sri Lanka, Thailand, Vietnam, China, Nepal and Bangladesh. Within India, the states of Bihar, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh account for almost 60 % of all child deaths. India's neonatal mortality, which accounts for almost 50 % of U5 deaths, is one of the highest in the world. India launched the Universal Immunization Program in 1985, but the status of full immunization in India has reached only 43.5 % by 2005-06. India started the Integrated Child Development Scheme (ICDS) in 1975 to provide supplementary nutrition to children, but 50 % of our children are still malnourished; nearly double that of Sub-Saharan Africa. The WHO/UNICEF training program on Integrated Management of Neonatal and Childhood Illnesses, known as IMNCI, started in India a few years ago, but the progress is very slow. What is unfortunate is the fact that

most of these deaths are preventable through proven interventions: preventive interventions and/or treatment interventions, but the management of childhood illnesses is very poor. In this working paper, we bring out the nature and magnitude of child deaths in India(Chapter 1) and then share with you in Chapters 2, 3 and 4 our observations on the management of some of national programs of the government of India such as The Universal Immunization Program (UIP)The Integrated Child Development Scheme (ICDS) The Integrated Management of Neonatal and Child Illnesses (IMNCI) In the final chapter (Chapter 5), we highlight certain managerial challenges to satisfactorily address the child mortality and morbidity in our country.

Mavalankar Dileep V et al, (2009): Mavalankar Dileep V; Puwar Tapasvi I; Murtola Tiina M; Vasan S S: "Quantifying the Impact of Chikungunya and Dengue on Tourism Revenues," Working Paper No. 2009-02-03, IIM Ahmedabad.

Health economists have traditionally quantified the burden of vector-borne diseases (such as Chikungunya and dengue) as the sum of the cost of illness and the cost of intervention programmes. The objective of this paper is to predict the order of magnitude of possible reduction in tourism revenues if a major epidemic of Chikungunya or dengue were to discourage visits by international tourists, and to prove that even a conservative estimate can be comparable to or even greater than the cost of illness and intervention programmes combined, and therefore should not be ignored in the estimation of the overall burden. We have chosen three Asian economies where the immediate costs of these diseases have been recently calculated: Gujarat (an economically important state of India), Malaysia, and Thailand only international tourists from non-endemic countries have been considered to be discouraged, and a 4% annual decline in their numbers has been assumed. Revenues from these tourists have been calculated assuming that tourists from non-endemic countries would spend, on average, the same amount as all international tourists. These assumptions are conservative and consistent with the recent experience of Mauritius and Reunion islands. Non-Resident Indians (NRIs) have been considered half as likely to avoid travel to Gujarat compared to non-Indians. this paper reports inflation-adjusted expenditure figures as 2008 US$, assuming recent market exchange rates of 2008.4% decline in tourists from non-endemic countries would result in a substantial loss of tourism revenues – at least US$ 8 million for Gujarat, US$ 65 million for Malaysia, and US$ 363 million for Thailand. The estimated immediate annual cost of Chikungunya and dengue to these economies is US$ 90 million, US$ 133 million, and approximately US$ 127 million respectively, indicating that impact on tourism revenues should not be ignored when calculating the burden of infectious diseases. The impact on Gujarat is relatively less because its share of world tourism receipts is just 0.04% whereas Malaysia and Thailand have healthy shares of 1.64% and 1.82% respectively. A 4% decline in tourists to Gujarat from other Indian states would amount to US$ 9.6 million loss in domestic tourism revenues to Gujarat. This paper shows that potential loss of tourism revenues due to a severe epidemic outbreak could be substantial.

Mavalankar Dileep V et al, (2009):Mavalankar Dileep V; Puwar Tapasvi I; Govil Dipti; Murtola Tiina M; Vasan S S: "A Preliminary Estimate of Immediate Cost of Chikungunya and Dengue to Gujarat, India," Working paper No. 2009-01-01, IIM Ahmedabad.

In this working paper, a preliminary estimate of the immediate cost of chikungunya and dengue to the Indian state of Gujarat has been estimated by combining nine earlier studies on major cost

factors such as costs of illness and control, and thus building a more comprehensive picture of the immediate cost of these Aedes mosquito-borne diseases to Gujarat. Costs of illness and vector control comprise the immediate cost of chikungunya and dengue. In this working paper, cost of illness has been calculated using the RUHA matrix approach. Using the shares of reported (R) and unreported (U) hospitalised (H) and ambulatory (A) cases of chikungunya and dengue, a RUHA matrix has been constructed for the state of Gujarat. Cost of illness has been estimated by combining this matrix with ambulatory and hospitalisation costs per case and the number of reported cases. For this study, chikungunya and dengue were assumed to be identical from the point of view of disease control and management. Vector control cost includes state and municipal expenditure to prevent/control these diseases, a conservative fraction of the household insecticides market, and private sector cost. Using Monte-Carlo sensitivity analysis, the immediate cost of chikungunya and dengue to Gujarat has been estimated to be 3.7 (range 1.6-9.0) billion rupees per annum.. Extrapolating from Gujarat to the whole of India (after adjusting for the relative number of cases in each state and differences in state GSDP per capita), the immediate cost of chikungunya and dengue to the whole of India is approximately INR 61 billion (range INR 26-148 billion). The annual cost of INR 3.7 billion (range INR 1.6-9.0 billion) translates to approximately INR 66 per capita (range INR 29-159), or US$ 1.6 (range US$ 0.7-3.8) per capita using an exchange rate 42 INR/US$. Comparable cost of dengue is US$ 5.3 in Malaysia and US$ 6.2 in Panama, while Brazil spends US$ 4.3 per capita on dengue prevention alone. The differences in these costs can be partially be explained by roughly five times higher GDP per capita in Malaysia, Panama and Brazil than in Gujarat. However, higher incidence of chikungunya increases the relative cost in Gujarat. As policy makers weigh investments in new technologies and expanded use of existing interventions to control neglected tropical diseases.

Gupta Mona et al, (2009): Gupta Mona; Mavalankar Dileep; Trivedi Poonam: "A Study of Referral System for EmOC in Gujarat," Working Paper No. 2009-06-02, IIM Ahmedabad.

An effective referral system is an essential prerequisite for a well functioning Emergency Obstetric Care (EmOC) service. It is the link between the home of the mother and a well equipped facility. The study attempts to explore the crucial link of referral system between the primary and higher level facilities. to study the existing referral system for emergency obstetric care in the state of Gujarat, evaluate its strengths and weaknesses, and suggest ways of improvement for providing better referral service. Based on the RCH (Reproductive and Child Health) status and geographical location, 2 districts each were chosen from good, medium and poor districts. Primary data was collected through visits to facilities and through interviews of key informants at state, division, and district level. The recent Public Private Partnership (PPP) with Emergency Management Research Institute (EMRI) and its impact on the existing referral system was also studied. study revealed a rudimentary government referral transport system. The focus of the system is more on number of ambulance and drivers, and less on the number of referrals provided. Most of the PHCs do not have proper ambulances. The lack of standard procedure and referral protocols in the government facilities were aggravated by absence of records related to referrals. The availability of vehicle for transport is improving with the advent of EMRI; however there is a greater need for transparency in its processes and data. by giving due importance to EmOC referral system and treating it as an integral part of maternal health, many more lives of mothers can be saved.

Puwar Tapasvi et al, (2009): Puwar Tapasvi I; Raman Parvathy S; Mavalankar Dileep V: "Situational Analysis of Reporting and Recording of Maternal Deaths in Gandhinagar District, Gujarat State," Working Paper No. 2009-06-01, IIM Ahmedabad.

India accounts for 22% (117,000) of all maternal deaths in the world and 62% of all maternal deaths in South Asia. Death registration in India is patchy, and the number of maternal deaths is under-reported in the country. This qualitative study was conducted during June-August 2008 and analyzed maternal deaths occurred during Apr 2007 to Mar 08. To understand the current reporting system of maternal deaths, semi-structured interviews were conducted with all the concerned officials. Forms and formats relating to death registration and registers containing information on deaths in the villages and towns were studied. Deaths of women in reproductive age group (15-49), reported by the district for the same year were also analyzed. Analysis of 15 verbal autopsy forms filled by the MO and BHO was also carried out using Epi Info software. The District Health Office reported 31,741 live births and 15 maternal deaths for 2007-08. It was estimated that a minimum of 82 maternal deaths would have occurred during the same period in the district based on corrected estimate of MMR for Gujarat state by SRS 2003. Five maternal deaths were not reported by the district but were reported by the BHO, showing the lack of coordination. Only one death was reported from an urban area having 13,702 live births for the same year meaning MMR of 7.3 per 100,000 live births for urban areas. District reported 231 deaths of women in reproductive age group against 665 expected deaths in the same age group. The results indicate that there is an urgent need to have a nodal person, at the district level for documenting and reporting maternal mortality. This will improve enumeration and reporting of maternal deaths. There is also need for creating awareness for registration of maternal deaths in the community and private doctors. Health centres should be encouraged to report correct numbers of maternal deaths.

Raman Sankar Parvathy et al, (2009): Raman Sankara Parvathy; Sharma Bharati; Mavalankar Dileep; Upadhyaya Mudita: "Assessing the Regional and District Capacity for Operationalizing Emergency Obstetric Care through First Referral Units in Gujarat," Working Paper No. 2009-04-01, IIM Ahmedabad.

Maternal mortality remains to be one of the very important public health problems in India. The maternal mortality estimates, is about (300-400/100,000 live births). There are diverse management issues, policy barriers to be overcome for improving maternal health. Especially, the operationalization of Emergency Obstetric Care (EmOC) and access to skilled care attendance during delivery. This study focuses on understanding the regional and district level capacity of the state government to operationalise First Referral Units for providing Emergency Obstetric care. This study is a part of a larger project for strengthening midwifery and Emergency Obstetric Care in India. The study apart from giving an in-depth insight into the functioning of various health facilities highlights the results from the basic to the more comprehensive level of EmOC services. It gives recommendation on various measures to rectify shortcomings noticed and make EmOC a more effective at different levels in the State of Gujarat. The study uses both primary and secondary data collection. The study was conducted in six regions of Gujarat -one district from each of these regions was selected. Out of these districts 27 health facilities were examined, which consists of seven district hospitals, eight designated as first referral units (FRU), four community health centers (CHC) and eight 24/7 primary health centers (PHC).A common feature among all health centres were issues related to general

infrastructure. Human resources analysis suggests that there is shortage of specialists at FRUs, and committed nursing staff in labour room. Furthermore, there is lack of managerial skills at senior level hospital staff. Even though the system of monitoring is well established at the state and district level, they are not properly followed. The problems are with the not maintaining the standard format of the register. The funds for operationalization of FRU come from department of family welfare. However, the administrative control is in the hands of department of medical services. Due to this factor monitoring system has become weak. In spite of reasonably developed health system, several problems of infrastructure, staffing, accountability and management capacity contribute to the poor functioning of facilities to act as an EmOC service delivery center. Major bottlenecks in improving EmOC services are limited management capacity, lack of availability of blood in rural areas and poor registration of births and deaths and no monitoring of EmOC. In the absence of adequate management capacity, the operationalization of EmOC is not well planned, executed or monitored, which results in delays in implementation and poor quality of care.

Ramani K.V et al, (2008): Ramani K.V; Mavalankar Dileep; Tirupati Devanath; Vijaya Sherry Chand: "Managerial Challenges in Addressing HIV/AIDS: Gujarat State AIDS Control Society (GSACS)," Working paper No. 2008-03-06, IIM Ahmedabad.

The spread of HIV/AIDS is not merely a problem of public health; it is also an economic, political, and social challenge that threatens to hinder decades of progress in different parts of Gujarat. There is an urgent need to significantly scale-up public health interventions that work to make a meaningful impact. While NGOs and community based organizations have a critical role to play in implementing these interventions amongst the various population groups, the government must shoulder the overall responsibility for planning, coordinating, mobilizing, and facilitating the various HIV/AIDS prevention, care and treatment services in the state. Generally, the departments of HIV/AIDS are dominated by doctor-managers who lack training in management. This working paper was developed with objective of enhancing the skills of the program implementers. in first three chapters we describe the overall situation of HIV/AIDS globally and nationally. Major challenges in managing sentinel surveillance, behavior surveillance, targeted interventions and its subcomponents have been described in chapter four. Issues related to integration of HIV/AIDS activities with reproductive health has also been discussed in the chapter. In chapter five, we present a few case studies from Gujarat State AIDS Control Society. These cases focus on the managerial issues in the following areas: Project Management, Blood Bank Management, VCTC/ICTC Management, Behavioral Surveillance and MIS for Targeted Interventions. These case studies bring out the ground level realities and can help participants develop insights for better management of the HIV/AIDS programme.

Vora Kranti S et al, (2008): Vora Kranti S; Mavalankar Dileep V; Ramani K.V; Upadhyaya Mudita; Sharma Bharati: "Maternal Health Situation in India: A Case Study," Working paper No. 2008-03-02, IIM Ahmedabad.

Maternal Health Services are one of the basic health services to be provided by nay government health system as pregnant women are one of the most vulnerable victims of dysfunctional health system, India, in spite of rapid economic progress is still farm away from the goal of lowering maternal mortality to less than 100 per 100,000 live births. It still accounts for 25.7% maternal

deaths. The maternal mortality in India varies across the states. Geographical vastness and socio-cultural diversity make implementation of health sector reforms a difficult task. The chapter analyses the trends in maternal mortality and various maternal health programs implemented over the years including the maternal health care delivery system at various levels including the recent innovative strategies. It also identifies the reasons for limited success in maternal health and suggests measures to improve the current maternal health situation. It recommends improvement in maternal death reporting, evidence based, focused, long term strategy along with effective monitoring of implementation for improving Maternal Health situation. It also stress the need for regulation of private sector and proper Public Private Partnership (PPP) policy together with a strong political will for improving Maternal Health.

Mavalankar Dileep; Vora Kranti (2008): "The Changing Role of Auxiliary Nurse Midwife (ANM) in India: Implications for Maternal and Child Health (MCH)," Working Paper No. 2008-03-01, IIM Ahmedabad.

The world's democracy and its second most populous country, India was the first developing country to have a national family planning program and has implemented countrywide reproductive health programs such as RCH I. India's primary health care and the family planning programs have come a long way after the independence in improving health indicators in general, yet it has high material and under five mortality rates. The country has developed an extensive network of primary health centers and sub- to provide basic medical care to huge (80%) rural population. In the rural health care system, the ANM is the key field level functionary who interacts directly with the community and has been the central focus of all the reproductive child health programs. In contrast with resident ANM of sixties who was providing delivery and basic curative services to the community, today's commuting multi purpose worker is more involved in family planning and preventive services. This has implications on the implementation and outcomes of maternal health programs in rural India. The midwifery role of the ANM should be restored if the goal of decreasing maternal mortality has to be met. The priority will have to change from family planning immunization to comprehensive reproductive health including maternal and neonatal care. These changes will require sustained and careful planning/resource allocation. Increasing resources along with systemic reforms will improve health status for women and children who are the focus of Reproductive Child Health programs.

Bhat Ramesh et al, (2007): Bhat Ramesh; Huntington Dale; Maheshwari Sunil: "Public-Private Partnership, Contracting Arrangements and Managerial Capacity to Strengthen RCH Programme Implementation," Working Paper No. 2007-05-02, IIM Ahmedabad.

Strengthening management capacity and meeting the need for Reproductive and Child Health (RCH) services is a major challenge for the national RCH programme in India. Central and state governments are working through multiple options to meet this challenge, responding to the complexity of issues in RCH which cut across social, cultural and economic factors, as well as reflecting the immense geographical barriers to access for remote and rural populations. Other barriers are also being addressed, including lessening financial burdens and creating Public - Private Partnerships (PPP) to expand access. For example, the NRHM has been initiated with particular focus on rural population. However, there are a number constraints faced by departments of health in implementing these initiatives. In this paper we focus on one key area:

the development of management capacity for working with the private sector. A synthesis of the learning from three case studies of public-private partnerships in the RCH area is discussed. Two case studies pertain to state level initiatives in Gujarat and Andhra Pradesh and third study focuses on the national level mother NGO scheme. The objective of these case studies was to investigate how management capacity was developed through the implementation of these three public-private partnerships initiatives and contracting out of RCH services. The case studies also focused on the partnership in service delivery setting by examining the structure and process of partnership experiences, understanding the management capacity and competency in make-up of various public-private partnership initiatives in RCH, and identify pathways towards developing management capacity of partners to address key challenges in implementation.

Deodhar Satish Y et al, (2007): Deodhar Satish Y; Mahandiratta Sweta; Ramani K.V; Mavalankar Dileep; Ghosh Sandip & Vincent Braganza, S.J: "Mid Day Meal Scheme: Understanding Critical Issues with Reference to Ahmedabad City," Working paper No. 2007-03-03, IIM Ahmedabad.

The objective of this scheme (MDM) was to give boost to universalisation of primary education and to impact the nutrition of students in primary classes. The Mid Day Meal (MDM) scheme has been revised in 2004 and as per the Supreme Court directive it envisages provision of cooked, nutritious Mid Day Meal to primary and secondary school children. Gujarat started this scheme in 1984 and was the only state after Tamil Nadu to start it so early. The objective was to provide one meal a day to students studying in primary classes (I-VII). The Ahmedabad Municipal Corporation (AMC) is responsible for implementation of the scheme in the city. AMC covers 563 schools under 61 MDM Centres. It caters to 1.3 million beneficiaries which is about one-third of the total number of beneficiaries in Gujarat. The broad objective of our exploratory study has been to clearly identify some of the critical issues associated with the MDM scheme and to do an objective evaluation in terms of efficiency in delivery system and service quality (which includes food safety, food nutrition and sensory aspects). We addressed three critical aspects of the scheme: managerial, technical and school logistics issues. Managerial issues pertain to understanding the planning and administration of the scheme by the central, state and local governments. For technical issues we identified nutritional and food safety concerns. We also discuss possibility of evolving food quality systems such as Hazard Analysis and Critical Control Points (HACCP) for food delivery. we collected secondary data and information on the working of the MDM scheme from various sources. This included the policy documents of the government and data available from the local and state administration. also conducted field visits to some of the participating schools from different wards of Ahmedabad city. included visits to 3 participating schools in Gomtipur, Sabarmati and Ellisbridge areas along with an NGO involved in preparation and distribution of meals. Our observations and collected food samples from these locations. The collected food samples were subjected to laboratory tests at St. Xavier's College to analyze the nutrition content and food safety aspects of the meals. Our study suggests that the implementation of the MDM scheme may be wanting on the grounds of nutrition and food safety. The study also indicates that in terms of calorific and nutritive intake, proportionate amounts of protein and iodine are not being provided through the meals. However, it must be borne in mind that MDM scheme is mandated to provide a minimum of 300 calories, i.e., minimum of about 15% of the daily requirement of calories. There is no guarantee that the children will get their rest of the 85% of calories at home, and, that their out-of-schools meals will have any significant amounts of nutrition. Hence, MDM scheme may want to provide much

more than proportionate requirements of nutrition. We suggest certain changes to address the above mentioned issues. For example, nutrition bars (or perhaps a local version like chikki) and fruits like banana could be considered as one of the menu on a couple of days. The study also revealed traces of uric acid and aflatoxins which if taken for a longer period of time could be carcinogenic for the children. Therefore, we suggest implementation of the HACCP system in preparation and serving of the meals. The food samples from the NGO were found to be good which are indicative of the fact that public private partnership could go a long way in making this scheme a success. There are many aspects the current study could not focus on. A separate and contextual study may be conducted to understand these aspects. In fact, a much larger study at the regional or national level could be conducted that not only includes aspects not covered in this study , but also widens the sample size of schools, cities, and meals to get a much broader and representative picture of India's MDM scheme.

Ramani K.V; Mavalankar Dileep V (2007): "Management Capacity Assessment for National Health Programs: A study of RCH Program in Gujarat State," Working Paper No. 2007-03-02, IIM Ahmedabad.

The Ministry of Health and Family Welfare, Government of India administers a large number of national health programs such as Malaria control program, Reproductive and Child Health (RCH) Program and so on. However, effective management of these programs has always come under scrutiny, as these programs consume a large amount of resources. In this paper, we focus on the management capacity assessment for RCH program. Based on extensive literature survey, and discussions with senior officers in charge of RCH program at the centre and several states, we have developed a conceptual framework for management capacity assessment. Central to our conceptual framework are the following determinants of management capacity at the state dept of H & FW: (1) Capacity to formulate a clear statement of the state's RCH Policy, Goals, and a Strategic Plan to achieve the Objectives, consistent with the resources available, (2) A well designed organizational structure for the H&FW department to provide the necessary support for achieving the policy goals, (3) Capacity of the H & FW department for effective management of RCH program, (4) Clear documentation of HR policies (qualifications, transfer, promotions, training etc) for RCH managers, (5) Role of External Stakeholders (6) Management Systems for Planning, Implementation and Monitoring RCH program, and (7) Institutional Processes and procedures For each of the above determinants, we have identified a set of indicators to assess the management capacity and designed a management capacity assessment tool to estimate these indicators. A pilot survey of our management capacity assessment tool in a few states helped us to refine certain instruments in our tool and finalize the same. Our management tool has been accepted by the Ministry of H & FW, Government of India and it has asked all the states and union territories to carry out a self assessment of their management capacity for RCH program. We have also recommended a suitable structure for effective management of RCH program for each state based on its population, the number of people in the reproductive age group, expected number of childbirths, and the current status of its H&FW department in delivering RCH services.

Bhat Ramesh et al, (2007): Bhat Ramesh; Mavalankar Dileep; Maheshwari Sunil; Saha Somen: "Provision of Reproductive Health Services to Urban Poor through Public-Private Partnerships: The Case of Andhra Pradesh Urban Health Care Project," Working Paper No. 2007-01-07, IIM Ahmedabad.

Andhra Pradesh had initiated the Urban Slum Health Care Project to provide basic primary healthcare and family welfare services to urban poor living in slums in 2002. As of now, the project has established 192 Urban Health Centres (UHCs) in 74 municipalities of the state through contracting-out process to the NGOs. These UHCs cover population of about 3 million. State government has played pivotal role in creating capacities to monitor and supervise the functioning of these UHCs. This project was started with the World Bank support and the state has effectively managed the transition from a donor-funded project to government programme and at the same achieving demonstrable impact on health status among its target population. The scheme ensures people's participation in management of the UHCs and placing the power for identifying the health priority in the hand of the community. The case study identifies emerging challenges in the scheme implementation relating to (a) involvement of NGOs as partners in service delivery, (b) financing and financial management system, and (c) need to reposition the UHCs in view of changing epidemiological scenario. Some of the areas needing attention to address the challenge include: need to refine the service mix to better respond to the health needs of the population served; evolving a financial management practices to increase efficiency in disbursement; motivating NGOs to actively participate in the scheme; developing management capacity and competencies of both partners; and repositioning relationship between the state and non-state actors away from a contractual basis to an effective partnership.

Bhat Ramesh et al, (2007): Bhat Ramesh; Maheshwari Sunil Kumar; Saha Somen: "Contracting-out of Reproductive and Child Health (RCH) Services through Mother NGO Scheme in India: Experiences and Implications," Working paper No. 2007-01-05, IIM Ahmedabad.

Partnership with NGOs in delivering and provision of Reproductive and Child Health (RCH) services through mother NGO (MNGO) in the un-served and under-served regions is one of the important initiatives in India. The scheme involves large number of contracts between government and the NGOs. This paper discusses this scheme with an objective to understand the make up of the partnership and the development of management capacity in the system. MNGO scheme is a central sponsored scheme. This scheme faces management challenge to implement it in all states in India. Further, the case study of three states presented in this paper suggests that this challenge emanates several factors. It is also observed that the capacity of field NGOs to deliver in the programme is constrained due to non -availability of financial and human resources. The scheme demands a strong leadership at local levels and ownership from the state health system. This can be achieved through effective decentralisation, flexibility indecision - making and creating adequate accountability systems. Regional Resource Centres has to play an important role in coordination between state/district RCH society and the NGOs and strengthening their capacities. The central government instead of focusing on micro - management of the scheme at state level should focus on developing and strengthening the enabling environment and capacity of various stakeholders to implement the scheme. Also, they need to address various systemic issues including development of accountable and performance oriented system, ensuring financial autonomy and decentralisation, delegation of authority,

building trust and accountability in the system, effective integration, continuity of the scheme and fostering true sense of partnership between the state and non-state sector.

Bhat Ramesh; Jain Nishant (2007): "A Study of Factors Affecting the Renewal of Health Insurance Policy," Working paper No. 2007-01-02, IIM Ahmedabad.

Health insurance policies are generally one-year policies and to remain part of the insurance poll, policyholders are required to renew their policies each year. Understanding the factors that affect the demand and renewal decisions to continue in health insurance programme is imperative for future growth and development of the insurance sector. We extend our previous work on factors affecting the decision to purchase health insurance to understand the factors affecting the renewal of insurance policy. We find the factors affecting health insurance renewal are not the same as factors affecting health insurance purchase decision. This has implications for insurance providers. The study also suggests customer satisfaction as an important factor influencing the renewal decision of policyholder.

Bhat Ramesh et al, (2007): Bhat Ramesh; Chandra Pankaj; Mukherjee Shantanu: "Involving Private Healthcare Providers to Reduce Maternal Mortality in India: A Simulation Study to Understand Implications on Provider Incentives," Working paper No. 2007-01-01, IIM Ahmedabad.

Gujarat State has implemented the “Chiranjeevi Yojana” to improve access to institutional delivery with an objective to reduce maternal mortality and at the same time providing financial protection to poor families. The scheme involves private providers in provision of maternity services through contracting-out and use of voucher type of mechanism. Five districts covered by this scheme have population of about 10.5 million of which 43 per cent are below poverty line having about 110,000 deliveries per annum. This paper mainly examines two things, one, the revenue distribution a private provider would have experienced if the provider was not part of the Chiranjeevi Scheme and second, does the financial package provided in the scheme provides adequate incentives to the private provider to join the scheme. We use Monte Carlo simulation method to examine these issues. The simulation results suggest that the average revenue is Rs. 1416 per delivery. This is less than what the provider is being reimbursed by the government on capitation fee basis, which is Rs. 1445 (Rs. 1795 less Rs. 350 towards reimbursement for food, transport and Dai). By joining this scheme, the provider’s additional margin on an average is 2 per cent. This is over and above the profits included in the average revenue earned if the provider was not part of the scheme. The results further suggest that revenue distribution is scattered asymmetrically indicating significant risk in revenues to the provider. By joining in the Chiranjeevi Scheme, the provider is able to reduce the overall risk in revenue. In addition to this, the increased volume of services will spread the fixed cost of the provider and increase overall profitability further. Since the provider is paid up-front advance for delivering services under the scheme, there is no transaction cost of bureaucratic delays in payments. The provider in the absence of this scheme can maximize the revenue by doing more cesarean cases. The scheme has embedded incentive to minimize the cesarian cases to maximize the revenue and this produces larger indirect benefits from health systems point of view. The study identifies other issues that need further investigation.

Ramani K.V et al, (2007): Ramani K.V; Mavalankar Dileep; Govil Dipti: "Management of Blood Transfusion Services in India: An Illustrative Study of Maharashtra and Gujarat States," Working paper NO. 2007-03-09, IIM Ahmedabad.

Blood is a vital healthcare resource routinely used in a broad range of hospital procedures. It is also a potential vector for harmful, and sometimes fatal, infectious diseases such as HIV, HBV, and HCV. Morbidity and mortality resulting from the transfusion of infected blood have far-reaching consequences. The economic cost of a failure to control the transmission of infection is visible in countries with a high prevalence of HIV. Shortfalls in blood supply have a particular impact on women with pregnancy complications, trauma victims and children with severe life-threatening anaemia. Blood transfusion services in India rely on very fragmented mix of competing independent and hospital based blood banks of different levels of sophistication, serving different types of hospitals and patients. Voluntary and non-remunerated blood is in short supply. The SACS ensure only the availability of safe blood in blood banks. Clinical use of blood is not monitored, and the use of blood components is very low. Managing blood transfusion services involves donor management, blood collection, testing, processing, storing, issue of safe blood and blood products when clinically needed, and staff training. Maharashtra Government, by setting up its State Blood Transfusion Council as an independent unit under the Department of Health, has set up an excellent example to address the above managerial issues in meeting the transfusion requirements than any fragmented system. We strongly recommend the Maharashtra model to all other states and union territories in India.

Mavalankar Dileep et al, (2007): Mavalankar Dileep; Shastri Priya; Parmar Jeram; Ramani K.V:" Chikungunya Fever: A Killer Epidemic in Ahmedabad City, India," Working paper No. 2007-06-02, IIM Ahmedabad.

The Chikungunya virus is an alphavirus native to tropical Africa and Asia and is transmitted to humans by the bite of infected Aedes mosquitoes. The symptoms of Chikungunya include sudden onset of fever, severe arthralgia, and maculopapular rash. Thirty percent of the population on the French Réunion Island was afflicted with Chikungunya in the past year. They reported 237 deaths. India on the other hand reported 1.39 million cases of Chikungunya but no deaths. Mortality data from 2002-2006 was obtained from the Ahmedabad Municipal Corporation (AMC). Actual mortality rate of 2006 was compared to the mortality rate of 2002-05 and its statistical significance tests were carried out. Mortality data obtained from the Ahmedabad Municipal Corporation (AMC) suggests that 3112 excess deaths occurred in August-November (epidemic period) compared to the average deaths in the same months during the previous four years. These differences in deaths were found to be highly statistically significant. A peak in excess mortality is seen in the month of September when 1489 additional deaths were recorded. Case fatality rates for Ahmedabad also turn out to be much higher than that of the Reunion Island. The Chikungunya epidemic was raging when the excess deaths occurred. There were no other adverse events or other epidemics that took place could explain this excess mortality. Government authorities, WHO and other international public health agencies should take these findings of excess mortality seriously and investigate into this occurrence of excess deaths to understand this reemerging disease and prevent future epidemics and mortality.

Maheshwari Sunil et al, (2007): Maheshwari Sunil; Bhat Ramesh; Dhiman Amit: "Implications of Human Resource Practices and Other Structural Factors on Commitment of Public Medical Professionals in India," Working Paper No. 2007-08-04, IIM Ahmedabad.

In this paper we focus on often neglected issue and inadequately studied area of commitment of public sector health professionals and some of the issues surrounding human resources as its determinants. The paper argues that success or failure of new initiatives in health sector critically hinges on the commitment of the staff. This paper is based on the questionnaire study and focused group discussion of 175 doctors working as district medical officers at district level and holding key administrative positions at state level in four states in India. These four Indian states account for nearly 22 per cent of India's population. The study finds critical linkage between human resource (HR) practices and commitment of doctors working in the government. Specifically, following HR practices are found critical in influencing organizational commitment: transparency in selection/postings, supportive training and capacity strengthening climate, recognition of performance and regular performance feedback. Further, results suggest that certain work environment and structural factors facilitate these practices. Health officials' roles need to be redefined and given complexity of coordination at various levels, officials need to be allocated higher responsibilities. There is also a need to improve interpersonal relations within departments and coordination among agencies and officials at various levels. It is also observed that the structural rigidities in the system leading to obstruction in information sharing across various levels needs to be addressed to ensure effective healthcare delivery. This study highlights the criticality of administrative and structural issues for reforms of healthcare sector in India. NRHM also identifies the human resources and capacities as an important challenge. Institutions that are critical vehicles to implement the NHRM would remain weak owing to low commitment of people. It would be important to focus on HR issues before any new initiative is proposed and implemented. The departments of health across states need to broaden and deepen the understanding of HR management and planning issues. The papers discusses that these changes will be required at both strategic and operational levels.

Mavalankar Dileep et al, (2007): Mavalankar Dileep; Shastri Priya; Ramani K.V: "Chikungunya Epidemic Mortality in India: Lessons from 17th Century Bills of Mortality Still Relevant," Working paper No. 2007-07-12, IIM Ahmedabad.

Chikungunya is a virus spread by the bite of the Aedes mosquito, which recently reemerged as a massive epidemic in the Indian Ocean islands and India. Chikungunya is generally considered self-limiting and has been reported as non-fatal but, since March 2005, one-third of the 770,000 people in the Indian Ocean Island of Réunion (a French territory) have been affected by Chikungunya with 237 deaths. India reported 1.3 million cases of Chikungunya however the Government of India has not reported any deaths. However there is evidence that deaths due to Chikungunya did occur. The lack of official reports of deaths is mainly due to the poor recording of 'Causes of Death' in India. The London Bills of Mortality from the 17th provides a very good example of the importance of proper reporting of deaths especially during an epidemic period. This paper reflects on the London bills of mortality and modern day lessons to be drawn from it as well as the reasons behind the apparent lack of death reporting in 2006's Chikungunya epidemic.

Mavalankar Dileep et al, (2007): Mavalankar Dileep; Vora Kranti; Sharma Bharati: "Strengthening Midwifery Services in India Based on lessons learnt from Sweden and Sri Lanka," Working paper No. 2007-06-07, IIM Ahmedabad.

The objective of the paper is to know how India can strengthen midwifery services to reduce maternal mortality based on the lessons learnt from Sweden and Sri Lanka. The paper is based mainly on the literature review, field visit to Sweden and interaction with maternal health experts from Sweden and Sri Lanka. High maternal mortality in India is due to absence of skilled attendance at the time of delivery and poor post-natal care. Seventy percent Indian population is rural and it is not possible to have doctors for all births. Adopting evidence-based interventions such as developing a skilled cadre of locally available midwives backed up by efficient referral and emergency obstetric care services like Sweden and Sri Lanka will help India achieve the goal of reducing maternal mortality with the existing resources. Analysis also shows that establishing quality training, independent regulating body and standardizing midwifery practices in India requires sustained efforts from government, professionals and society, and reorganization of health systems. Creating the scope for career advancement will help to improve status of midwifery as a profession.

Bhat Ramesh et al, (2007): Bhat Ramesh; Mavalankar Dileep; Singh Prabal V; Singh Neelu: "Maternal Health Financing in Gujarat: Preliminary Results from a Household Survey of Beneficiaries Under Chiranjeevi Scheme," Working Paper 2007-10-06, IIM Ahmedabad.

The objective of this paper is to provide preliminary analysis of information collected at household level from beneficiaries of the Chiranjeevi scheme and from those who have not used the scheme (non-user group). The key findings have been discussed. Some of the questions which have guided this exercise are: understanding the socio-economic profile and differences of the households who have used the scheme and those who have not used the scheme, ability of scheme to target the poor and out-of-pocket expenditures incurred both users and non-users of the scheme. We have discussed this by analysing education, land holding, number of earning members in the family, possession of specific assets, age of women at the time of delivery, ANC services received, place of delivery, distance and time taken to reach the facility, status (normal or complication) of delivery, complications experienced, and cost incurred during the process. Key findings of the study are: • The Chiranjeevi scheme is being used by relatively younger mothers and having lesser number of children at the time of index delivery. • Most of the Chiranjeevi users have income levels less than Rs. 12,000 per annum indicating the scheme is able to target the poor families in these three blocks of the district, • The expenditure incurred by non-user group on index (recent) delivery at a private facility is Rs. 4000. • The average expenditure incurred by the Chiranjeevi beneficiary on their previous delivery was Rs. 3070. On index delivery a Chiranjeevi client has spent out-of-pocket on an average Rs. 727 per delivery on medicine (self Rs. 297, child Rs. 358) and transportation Rs. 72 indicating that the delivery is not really cash-less. However, the average amount saved by the Chiranjeevi client by availing the benefit of the scheme is Rs 3273 (Rs. 4000 minus Rs. 727). • The average distance traveled by a Chiranjeevi client to reach the health care facility is 13.79 kms and the average time taken is 44 minutes. • The average expenditure on transportation using mostly private transport by a Chiranjeevi client is Rs. 272 as compared to Rs. 200 which the Chiranjeevi client is reimbursed, • Private doctors have conducted 41 per cent of deliveries where as rest of the deliveries have

been conducted by staff at the private health care facility under the Chiranjeevi scheme, • ANMs have been the source of information to 55 per cent of Chiranjeevi scheme users. Anganwadi workers provided information to 17 percent of the clients and Female Health Workers to 10 per cent of the Chiranjeevi clients. Thus, 82 per cent of the total beneficiaries of the Chiranjeevi scheme were provided information by the community health workers

Patel Amit et al, (2007): Patel Amit; Ramani K.V; Mavalankar Dileep; Agarwal Anurag; Maiya Shilpa; Nayak Beena : "Implementing a Public Private Partnership Model for Managing Urban Health in Ahmedabad," Working Paper No. 2007-09-03, IIM Ahmedabad.

Governments in many developing countries acknowledge they are facing difficulties in their attempt to meet the basic health needs of their populations. They rely on contracting out to private (for-profit and not-for-profit) organizations as a strategy to meet the needs of underserved populations. For the most part, the public sector chooses to contract out primary healthcare services to the private sector to expand access, increase the availability of medicines and medical supplies, and improve the quality of care. In both urban and rural settings, private for-profit and non-profit health service providers serve both the rich and the poor. Communities often recognize private sector healthcare providers to be more responsive to their healthcare needs and preferences in terms of services available, suitable timings and geographical access etc. Private sector has always played a significant role in the delivery of health services in developing countries. Public-private-partnership (PPP) is an approach under which services are delivered by the private sector, while the responsibility for providing the resources rests with the government. Establishing a PPP requires a legal framework acceptable to all the partners, clarity on the commitment of resources, roles and responsibilities of each partner, as well as accountability to provide a given set of services at a desired level of quality and affordable user charges. Formalizing such an arrangement between partners requires conceptualising a framework for Public Private Partnership (PPP) to manage the delivery of health services. In this paper, we describe the design, development and implementation of a PPP for managing urban health services in Ahmedabad city, Gujarat. Our model has succeeded in bringing together compatible public and private partners to plan and deliver quality healthcare services to meet the community needs of Vasna ward, in Ahmedabad. The new Vasna Urban Health centre was inaugurated on July 23, by the Chief Minister of Gujarat. This new centre now serves about 120 outpatients everyday as against an average of 10 outpatients daily earlier.

Bhat Ramesh et al, (2006): Bhat Ramesh; Singh Amarjit; Maheshwari Sunil; and Saha Somen: "Maternal Health Financing Issues and Options: A Study of Chiranjeevi Yojana in Gujarat," Working Paper No. 2006-08-03, IIM Ahmedabad.

Government of Gujarat announced a "Chiranjeevi Yojana" in April 2005.the objective of this scheme is to encourage private medical practitioners to provide maternal health services in remote areas which record the highest infant and maternal mortality and thereby improve the institutional delivery rate in Gujarat. The scheme was finally launched as a one year pilot project in December 2005 in five district viz., Banaskantha, Dahod, Kutch, Panchmahal, and Sabarkantha. The private empanelled providers are reimbursed on capitation payment basis according to which they are reimbursed at a fixed rate for deliveries carried out by them. The

payments are made for a batch of 100 deliveries. This is expected to take care of case-mix differences (i.e., normal or complicated deliveries) and help the providers to keep the costs below the reimbursed amounts. The scheme proposes to use a voucher system to target the people living below poverty line. The objective of this paper is to document the experience in implementing this scheme and discuss the issues in up-scaling it further

Bhat Ramesh and Jain Nishant (2006): "Factoring Affecting the Demand for Health Insurance in a Micro Insurance Scheme," Working Paper No. 2006-07-02, IIM Ahmedabad.

Health insurance schemes are increasingly recognised as preferable mechanisms to finance health care provision. In this direction micro health insurance schemes and community based health insurance schemes are assuming significant importance in reaching large number of people. However, at the community level despite low premiums the penetration of health insurance is small. The objective of this paper is to analyse factors determining the demand for private health insurance in a micro insurance scheme setting. The study uses two-stage model to examine this issue. First, we determine the factors which affect the insurance purchase decisions and at second level we focus on studying factors which affect the amount of insurance purchase using Heckman two-stage estimation procedure. The data of this study is based on survey and collection of primary data from the Anand district of Gujarat where Charotar Arogya Mandal is offering a health insurance scheme. The results indicate that income and healthcare expenditure are significant determinants of health insurance purchase. Age, coverage of illnesses and knowledge about insurance were also found to be affecting health insurance purchase decision positively. For the decision regarding amount of health insurance purchase, income was found to be having significant but non-linear relationship. In addition, number of children in the family, age, and perception regarding future healthcare expenditure were also found to be significant. The study discusses implications of these results.

Vohra Seema et al, (2006): Vohra Seema; Dutta Goutam; and Ghosh D.K: "Capacity Management of Intensive Care Units in a Multispecialty Hospital in India," Working Paper No. 2006-07- 04, IIM Ahmedabad.

In this paper, we describe the capacity management of Intensive Care Units (ICUs) in a 300-bed multi-specialty hospital where the alternative ICU is utilized when the appropriate ICU is full for a set of two types of ICUs. Inter-arrival time and service time distributions in these ICUs have been tested and found to be exponentially distributed. While most capacity management models are deterministic in nature, we have developed a queuing model to provide a basis for decision-making in the design and management of these ICUs. The model results in around 19800 linear steady state equations, which are solved using the CPLEX linear optimization solver. Based on real data available from a hospital in India, the results demonstrate that the utilization of the ICU beds will improve up to 28 percent when admissions to the alternative ICU are permitted.

Bhat Ramesh and Jain Nishant (2006): "Financial Performance of Private Sector Hospitals in India: Some Further Evidence," Working Paper No. 2006-04-08, IIM Ahmedabad.

This paper analyses financial performance of private hospitals. The study is based on financial statement data of private hospitals for the years 1999 to 2004. Using 25 key financial ratios, the study finds six key financial dimensions. These are: fixed assets age, current assets efficiency, operating efficiency, financial structure, surplus/profit appropriation, and financial profitability/operating cost ratio. The findings suggest that over the years hospitals have shown marginal improvement in financial performance. Though the total amount of debt is not high, it is the cost of debt and ability to service the debt which is making debt burden high for hospitals. The financial risks in this sector are high because of lower profitability and lower operating efficiencies. We discuss the implications of the results.

Bhat Ramesh and Jain Nishant (2006): "Governance of Private Sector Corporate Hospitals and Their Financial Performance: Preliminary Observations Based on Analysis of listed and Unlisted Corporate Hospitals in India," Working Paper No. 2006-03-07, IIM Ahmedabad.

This paper analyses financial performance of corporate hospitals in India. While studying the financial performance of hospitals in our previous work we observed that there are some distinct differences between unlisted and listed hospitals. It is hypothesised that corporate hospitals which are listed on the stock exchanges are likely to be more aware about corporate governance issues and ensure better utilisation of resources and meet expectation of various stakeholders. We study the differences in listed and unlisted hospitals in this paper. The findings suggest that operating cost ratio of listed hospitals is significantly different and lower from the unlisted hospitals. We also find that borrowings of unlisted hospitals are much higher than listed hospitals because they have no access to capital markets to raise money. This increase the financial vulnerability of unlisted hospitals as their ability to service the debt is low. We discuss the implications of these results.

Ramani K.V et al, (2006): Ramani K.V; Mavalankar Dileep; Patel Amit; Mehandiratta Sweta; Bhardwaj Rohini; and Joshi Diptesh: "A Public Private Partnership Model for Managing Urban Health: A Study of Ahmedabad City," Working Paper No. 2006-03-05, IIM Ahmedabad.

Urbanization is an important demographic shift worldwide. India's urban population of 300 million represents 30 % of its total population; with the slum population in urban cities registering a 5 % growth in the last few years. Responding to the healthcare needs of urban poor is therefore very essential. Government of India focus has been mainly on rural health till the late 90s. Recognizing the urgency to manage urban health for the vulnerable sections of our population, the 9th and 10th Five Year Plans of the Government of India have laid special emphasis on developing a well structured network of urban primary care institutions. Ahmedabad city (also known as Ahmedabad Municipal Corporation, AMC) is the sixth largest city in India with a population of 3.5 million spread over 192 square kilometers, across 43 wards. AMC has nearly 2500 slums and chawls housing approximately 1.5 million people. Out of 43 wards in AMC, 9 wards which house more than 20 % of AMC population, have no government

health facility at all. With more than 3500 private health facilities in AMC, it is therefore worthwhile to explore Public Private Participation (PPP) to improve the delivery of healthcare services. In this working paper, we outline our approach to developing a PPP model for a decentralized and integrated primary healthcare center for each ward of AMC. Our model is built on a clear understanding of the socio-economic profile, status of public health, and the healthcare seeking habits of Ahmedabad population. Our GIS (Geographic Information System) methodology guides the AMC authorities to identify good locations for urban health center (UHC) so as to ensure availability, affordability, accessibility, and equity to primary healthcare facilities to the slum populations. We illustrate our methodology for Vasna and Naroda wards in AMC.

Bhat Ramesh and Saha Somen (2006): "Costing of HIV/AIDS Intervention of Providing Antiretroviral Therapy," Working Paper No. 2006-01-03, IIM Ahmedabad.

India's initiative to provide structured antiretroviral therapy has raised hope among people living with HIV/AIDS to lead a more productive life. However, from a programme perspective, providing structured antiretroviral therapy has got high cost implications and there are ethical issues related to the provision of second line therapy in case of drug failure. To date, evidences on the cost implications of running ART programmes are mostly from developed and African countries. The current study attempts to work out the cost implications of running the public funded ART centre in the state of Gujarat. Data on cost and patient load were collected through actual field visits to the centre. Using incremental cost approach the cost of providing ART therapy to a patient works out to be Rs. 668 per month. These calculations are based on provision of first line therapy only. Using this costing and assuming a provision of second line therapy for 16 per cent of the cases, we estimate that India will need financial provision of Rs. 454 crore to Rs. 1342 crore for a period of five years under different scenarios to successfully implement the programme.

Maheshwari Sunil Kumar et al, (2006): Maheshwari Sunil Kumar; Bhat Ramesh; and Saha Somen: "Commitment of State Health Officials: Identifying Factors and Scope for Improvement," Working Paper No. 2006-01-02, IIM Ahmedabad.

Commitment, competencies and skills of people working in the health sector has significant impact on sector performance and its reform process. The current paper is a part of broader multi state studies carried out by the authors in India. The paper attempts to analyse the commitment of state health officials and its implications for human resource practices in Gujarat. The study suggests Gujarat, as compared to other states of India, have achieved significant progress in ensuring commitment of its health officials. However, the state needs to invest progressively and in a proactive manner towards improving the leadership quality, supervision skills and autonomy at workplace to improve and sustain the motivation of its health officials. Improving motivation for the health staffs also involves issues related to infrastructure, involvement, supervision and monitoring, continuous medical education and training, human resource planning, smooth reporting process, administration and audit requirements and prioritisation and synchronisation of health programmes. In order to achieve this, two sets of strategies for reforms are suggested. One relates to short term achievable reforms and other relates to long-term research based actions.

Bhat Ramesh (2006): "Financial Health of Private Sector Hospitals in India," Working Paper No. 2006-01-01, IIM Ahmedabad.

Hospitals are an important component of the healthcare delivery system. Over the years, India has experienced a significant increase in the number of hospital beds to meet the growing health demands of its population. Most of this growth has been experienced in the small sized private hospital sector (popularly known as nursing homes in India). The corporate hospital sector, however, has not exhibited similar growth though private expenditures on medical and health care in real terms have grown at 10 per cent per annum and government of India initiating number of policy reforms after 1991 aimed at attracting more capital to hospital sector. This experience has something to do with the financial health and risks, as these are critical determinants in attracting private capital. Using the financial balance sheets and profit and loss account data of 128 hospitals in India, this paper examines the financial health of hospitals in the private sector. Based on 26 key financial ratios, the paper empirically identifies relevant dimensions of financial health of hospitals. These dimensions are: profitability, financial structure, overall efficiency, cost structure, profit appropriation, technology advancement, credit management, fixed asset intensity, liquidity and current assets efficiency. It then discusses the implications of the findings. Because of lower profitability, lower financial efficiencies and less understood economies of scale, the risks in the health sector are likely to remain high. Other risk factors are the geographic pull factor, long gestation periods, a highly fragmented sector and inadequacy of standards. In this scenario, new investment in the health sector will remain resource dependent on subsidized channels of funding and will be sensitive to the out-of-pocket payment of fees, which still remains the main channel of revenues of these hospitals.

Bhat Ramesh and Rajagopal Srikanth (2005): "Preliminary Analysis of Claims Data to Understand Relationship Between Disease Patterns and Quality of Care and its Implications for Health Insurance in India," Working Paper No. 2005-09-03, IIM Ahmedabad.

This paper provides preliminary analysis of claims data of Mediclaim insurance scheme to understand the relationship between disease pattern and the quality of health care. We use length of stay (LOS) and average length of stay (ALS) as one of the indicators of quality of care. We use the Diagnostic Related Grouping (DRG) based ALS as the benchmark to make this evaluation and comparison. It is observed that the reimbursements in insurance system are tied to hospital inputs and resource use and not to diagnostic related groups or outputs. Therefore the current system of reimbursements and provider payment system influences the length of stay and there is significant variation in ALS observed across disease groups and its sub-groups. There is no consistency observed in ALS as the severity of diseases under each group increases. This reflects lack of standards/protocols and unintended consequences of current practice of provider payment system. Implementing systems like Diagnosis Related Grouping would be an attempt to link it with outcomes. The paper provides insights into whether there is a significant mismatch in the premium that insurance companies charge in comparison to the risk insurer undertake while issuing policies. It was also found that after adjusting for the purchasing power parity, the claims data suggest that healthcare costs reimbursed for medical insurance to private providers in India are actually higher than healthcare costs reimbursed to providers of healthcare in the US under DRG system. The paper argues that under less regulated private healthcare providers market and

health insurance market, cost based reimbursement is highly undesirable. The regulators should put in place a system of pre-determined rates for reimbursements in health insurance.

Bhat Ramesh et al, (2005): Bhat Ramesh; Maheshwari Sunil Kumar; and Saha Somen: "Third Party Administrators and Health Insurance in India: Perception of Providers and Policyholders," Working Paper No. 2005-01-02, IIM Ahmedabad.

The advent of Third Party Administrators (TPAs) is expected to play an important role in health insurance market in ensuring better services to policyholders. In addition, their presence is expected to address the cost and quality issues of the vast private healthcare providers in India. However, the insurance sector still faces challenge of effectively institutionalising the services of the TPA. A lot needs to be done in this direction. Towards this the present paper describes the findings of a survey study, which was carried out with the objective to ascertain the experiences and challenges perceived by hospitals and policyholders in availing services of TPA in Ahmedabad, Gujarat. The major findings from the study are: (i) low awareness among policyholders about the existence of TPA; policyholders mostly rely on their insurance agents; (ii) policyholders have very little knowledge about the empanelled hospitals for cashless hospitalisation services; (iii) TPAs insist on standardisation of fee structure of medical services /procedures across providers; (iv) healthcare providers do experience substantial delays in settling of their claims by the TPAs; (v) hospital administrators perceive significant burden in terms of effort and expenditure after introduction of TPA and (vi) no substantial increase in patient turnover after empanelling with TPAs. However, there is an indication that hospital administrators foresee business potential in their association with TPA in the long-run. There is a clear indication from the study that the regulatory body needs to focus on developing mechanisms, which would help TPAs to strengthen their human capital and ensure smooth delivery of TPA services in emerging health insurance market.

Maheshwari Sunil Kumar et al, (2005): Maheshwari Sunil Kumar; Bhat Ramesh; and Saha Somen: "Directions for Reforms in the Health Sector: Reflections from a State in a Developing Country," Working Paper No. 2005-01-03, IIM Ahmedabad.

Meeting the health care needs of population goes beyond mere budget allocations. The organisation of programmes and commitment of people working in the health sector has significant bearing on sector performance and its reform process. The reform process, among other things, intrinsically makes some fundamental assumptions: high organisational commitment of health care providers, high professional commitment of health care providers and adequate skills of health care providers. The current paper attempts to analyse the HR practices in Madhya Pradesh and its implications on commitment of the health officials. The findings of the study indicate that district health officials do not share strong emotional bond with the department which is likely to affect their willingness to take initiative. The findings suggest the need to consult senior doctors in staffing decisions in order to develop a sense of belongingness in the mind of the health officials. The study suggests investing in development of multiple strategies for the growth and career development of health professionals. The study also advocates the need for intense socialisation among health professionals to facilitate the effective implementation of reforms. Finally the study advocates the need to develop informal channels of communications and networking among various health providers.

Mavalankar Dileep et al, (2005): Mavalankar Dileep; Ramani K.V; Patel Amit; and Sankara Parvathy: "Building the Infrastructure to Reach and Care for the Poor: Trends, Obstacles and Strategies to Overcome them," Working Paper No. 2005-03-01, IIM Ahmedabad.

Infrastructure forms a critical part of health service delivery in any country. Availability, Accessibility, Affordability, Equity, Efficiency and Quality of MNH services highly depend on the distribution, functionality and quality of infrastructure. Most developing countries have invested substantially in developing health infrastructure in rural areas which provides a base for extending MNH services to the poor. Still, there is clear evidence that in many countries there are gaps and inadequacies in health infrastructure. The functionality and utilization of health infrastructure has been sub-optimal or poor due to a variety of reasons. This paper reviews available literature and assesses the coverage and gaps in infrastructure for MNH. It also identifies critical issues in management of infrastructure and analysis their causes and impact on services delivery to the poor. The paper also reviews impacts of reforms on infrastructure and provides some recommendations for improvement of infrastructure management so as to ensure better services to the poor.

Ramani K. V et al, (2005): Ramani K.V; Mehandiratta Sweta; Patel Amit; Joshi Diptesh and Patel Nina: "Urban Health Status in Ahmedabad city: GIS Based Study of Baherampura, Kubernagar, and Vasna wards," Working Paper No. 2005-03-05, IIM Ahmedabad.

Urbanization is an important demographic shift worldwide. Today, nearly half the world population is urban. In the 1991-2001 decade, Indian population grew by 2 %, urban India by 3 %, mega cities at 4 %, and slum population by 5 % (2-3-4-5 syndrome). Slum growth in future is expected to surpass the capacities of civic authorities to respond to health and infrastructure needs of this population group. Managing urban health, thus assumes critical importance to achieve better health outcomes in the country. Historically, Government of India's focus has been on development of rural health system. However, since the 9th Five year Plan, Government has started giving priority to urban health as well, but hardly any progress has been achieved in this area. In this working paper, we discuss our initiatives in a pilot study of urban health management in Ahmedabad city, the seventh largest mega city in India with a population of 3.5 million consisting of 1.5 million people living in slums and slum-like conditions. Our objective is to understand the nature, magnitude, and complexity of issues in the management of urban health. Towards this, our pilot study focuses on three wards, in three different parts (zones) of Ahmedabad. Our GIS based analysis provides some very interesting insights into the status of health in the selected wards. Our next task is to understand private health care in Ahmedabad, analyze existing public private partnerships in the city, and thereby build a Model Urban Health Centre with Public private Participation.

Ramani K.V and Mavalankar Dileep (2005): "Health System in India: Opportunities and Challenges for Improvements," Working Paper No. 2005-07-03, IIM Ahmedabad.

Health and Socio-economic developments are so closely intertwined that is impossible to achieve one without the other. While the economic development in India has been gaining momentum

over the last decade, our health system is at crossroads today. Even though Government initiatives in public health have recorded some noteworthy successes over time, the Indian health system is ranked 118 among 191 WHO member countries on overall health performance. Building Health Systems that are responsive to community needs, particularly for the poor, requires politically difficult and administratively demanding choices. Health is a priority goal in its own right, as well as a central input into economic development and poverty reduction. Health sector is complex with multiple goals, multiple products, and different beneficiaries. India is well placed now to develop a uniquely Indian set of health sector reforms to enable the health system in meeting the increasing expectations of its users and staff. Managerial challenges are many to ensure availability, access, affordability, and equity in delivering health services to meet the community needs efficiently and effectively. In this working paper, we describe the status of our health system, discuss critical areas of management concerns, suggest a few health sector reform measures, and conclude by identifying the roles and responsibilities of various stakeholders for building health systems that are responsive to the community needs, particularly for the poor.

Maheshwari Sunil Kumar et al, (2005): Maheshwari Sunil Kumar; Bhat Ramesh and Saha Somen: "Human Resource Practices and Commitment of Senior Officials in Health System: Reflections from a Progressive State in a Developing Economy," Working Paper No. 2005-09-02, IIM Ahmedabad.

It is widely recognised that the commitment and competencies of people working in the health sector has significant bearing on sector performance and its reform process. The current paper attempts to analyse the commitment of the health officials and its implications for HR practices in Maharashtra. The study suggests that the district health officials do not share a strong emotional bond with their department. The state needs to reform its Human Resource Management practices to effectively strengthen the functioning of the health system. The study shows that there is a need to involve senior doctors in staffing decisions that affect their work units. There is a need to develop a proper tribal/remote area posting plan for the health officials, failing which creates a sense of frustration among the health officials. The study also suggests investing in development of multiple strategies for the growth and career development of health professionals. Finally the study advocates the need to develop areas of public private partnership and community participation in making the public health programme successful.

Desai Tejas (2005): "On the Optimal Staffing of Surgeons and Efficient Scheduling of Surgeries at a High-Volume Eye Hospital," Working Paper No. 2005-12-06, IIM Ahmedabad.

It is well-known that the demand for services at many if not all hospitals is variable over a given year such that the demand is significantly higher in some months compared to the rest of the months in any given year. This is especially true for surgical departments at many hospitals. Therefore, it is a challenge to staff the surgical departments in such a way that the demand for surgeries throughout a year is met without creating significant over- or under-staffing at any point in a given year. In other words, an optimal level of staffing is sought so that the staff is not significantly over- or under- utilized at any point in a given year. In this paper, we consider an algorithmic approach of arriving at such an optimal level of staffing given some practical

constraints. We apply this approach to the surgery department of the paying section of the Aravind Eye Hospital in Madurai, India.

Bhat Ramesh and Maheshwari Sunil Kumar (2004): "Human Resource Issues and its Implications for Health Sector Reforms," Working Paper No. 2004-01-04, IIM Ahmedabad.

Given the growing complexities and challenges the health sector faces, reforms in this sector are inevitable. Often health sector reforms aimed to address many of these deficiencies and ensuring effectiveness and efficiency of resource use, they focus on making the health systems responsive through strengthening financial systems, ensuring local participation and public private partnerships, and autonomy of health facilities. The reform process, among other things, intrinsically makes some fundamental assumptions some of which are as follows: high organisational commitment of health care providers, high professional commitment of health care providers, and adequate skills of health care providers. This paper examines the commitment of district level health officials in the newly carved out state of Chattisgarh in India. Since development oriented HR practices (HRD) are powerful tools to commit people working in health sector to enhance the quality of care, we believe that health sector reforms will have to concentrate on human resource issues and practices more than ever before in near future. The papers attempts to examine the following questions: (i) what is status of professional commitment, organisational commitment and technical competencies of health officials? (ii) What are the characteristics of human resource management practices in the health sector in the state? And (iii) how these management practices are linked with professional and organisational commitment? Finally the paper discusses the implications of these to health sector reform.

Maheshwari Sunil Kumar and Bhat Ramesh (2004): "Challenges in Sustaining a Hospital: lessons for Managing Healthcare Institutions," Working Paper No. 2004-02-03, IIM Ahmedabad.

One of the important components of the private health care sector has been health care facilities set up by corporate sector. The financial sustainability of these facilities is closely linked to the financial performance of the main business. In this paper we examine a case of one such hospital which is part of a corporate facing difficult time and its revival strategy. The revival strategy of a hospital presented here provides many interesting ideas of reviving hospitals which are going through difficult times. In some sense the government hospitals have many similarities like a corporate hospital dedicated to its employees. Like dedicated corporate hospital, the government facilities are required to provide free care or highly subsidized care to its users and depend on financial allocations from government. Both dedicated corporate hospital and government facility depend on budget allocations which in turn depend on good financial health of corporate and good fiscal position of government respectively. Tinplate Hospital, one of the oldest hospitals in Jamshedpur, was started to extend medical care facilities for its employees in the early 1940's. It graduated into a 210-bedded hospital with 35 doctors and 187 supporting staff in 1990s. The parent company was facing serious financial losses in late 1990s. Due to recurring losses, inadequate operating performances and increasing expenditure the management of the parent company was in a dilemma whether to close down the hospital or at least downsize the staff to save an annual expenditure of nearly Rs. 30 million. The hospital redefined its offer of

services, undertook leadership changes and improved operations to achieve financial independence. It continues to provide free medical facilities to nearly 28000 members of 5500 families of the employees of the parent company.

Bhat Ramesh and Jain Nishant (2004): "Time Series Analysis of Private Healthcare Expenditures GDP: Co integration results with structural breaks," Working Paper No. 2004- 05-10, IIM Ahmedabad.

This paper analyses the time-series behaviour of private health expenditure and GDP to understand whether there is long-term equilibrium relationship between these two variables and estimate income elasticity of private health expenditure. The study uses co integration analysis with structural breaks and estimates these relationships using FMOLS (fully modified ordinary least squares) method. The findings suggest that income Elasticity of private health expenditures is 1.95 indicating that for every one per cent increase in per capita income the private health expenditure has gone up by 1.95 per cent. The private health expenditure was 2.4 per cent of GDP in 1960 and this has risen to 5.8per cent in 2003. In nominal terms it has grown at the rate of 11.3 per cent since 1960 and during 1990's the growth rate is 18 per cent per annum. The study discusses four reasons for this high growth experience. These are: (i) financing mechanisms including provider payment system, (ii) demographic trends and epidemiological transition, (iii) production function of private health services delivery system, and (iv) dwindling financing support to public health system. In developing countries where per se the need for spending on health is high, high levels of private health expenditures pose serious challenge to policy makers. The sheer size of these expenditures once it has risen to high levels can impede control of health expenditures itself. The high private health expenditures are also cause of concern because most of these expenditures are out-of-pocket, insurance mechanisms cover small segment of population, provider payment systems are primarily based on fee-for-services and the professional regulation and accountability systems are weak and non-functioning in many ways. It is not clear whether these expenditures are sustainable as it can have number of undesirable consequences making the health system high cost, unaffordable, and vulnerable to provider payment system.

Ravichandran N (2004): "Tuberculosis Control in Developing Countries: A Generalized Community Health Worker Based Model," Working Paper No. 2004-06-01, IIM Ahmedabad.

Tuberculosis is a major health care burden in developing countries. World Health Organization (WHO) has been assisting developing countries through their respective Governments to control this curable disease. The Amsterdam declaration aims to control tuberculosis globally by the year 2005. The TBC project implementation experiences are varied across countries both on cure and detection rates. The government initiatives are complemented by the non government organizations involvement at the operational level. The BRAC model in Bangladesh involves the NGOs in an extensive and cohesive way. This paper documents the BRAC model for TBC in Bangladesh. We introduce the concept of value chain, in the context of TBC. Based on the value chain concept, the logic for the effectiveness of the BRAC model is discussed. An improved version of the Bangladesh delivery model is proposed. We hope the model proposed in this work

would draw the attention of policy planners, and help them to control TB in their respective countries.

Bhat Ramesh and Jain Nishant (2004): "Analysis of Public Expenditure on Health Using State Level Data," Working Paper No. 2004-06-08, IIM Ahmedabad.

Increasingly the governments are facing pressures to increase budgetary allocations to social sectors. Recently there has been suggestion to increase the government budget allocations to health sector and increase it to 3 per cent of GDP. Is this feasible goal and in what time-frame? Health being State subject in India and much depends on the ability of the State governments to allocate higher budgetary support to health sector. This *inter alia* depends on what are current levels of spending, what target spending as per cent of income the States assume to spend on health and given fundamental relationship between income levels and public expenditures, how fast expenditures can respond to rising income levels. We present analysis of public expenditures on health using state level public health expenditure data to provide preliminary analysis on these issues. The findings suggest that at state level governments have target of allocating only about 0.43 per cent of SGDP to health and medical care. This does not include the allocations received under central sponsored programmes such as family welfare. Given this level of spending at current levels and fiscal position of state governments the goal of spending 2 to 3 per cent of GDP on health looks very ambitious task. The analysis also suggests that elasticity of health expenditure when SGDP changes in only0.68 which suggests that for every one percent increase in state per capita income the per capita public healthcare expenditure has increased by around 0.68 per cent.

Bhat Ramesh and Saha Somen (2004): "Union Budget 2004-05 and the Health Sector," Working Paper No.2004-07-07, IIM Ahmedabad.

The Union Budget 2004-05 of Government of India in some way marks a deviation from its preceding budgets in terms of its specific focus on social sector. The budget document is basic policy paper of the government and in some sense provides a mirror of government's priorities. However, one basic question remains how to translate these policies into implementable plans and how to make sure that the government is able to deliver the planned development. Many times we focus on priorities and policies without giving due consideration to ground level realities and the policy pronouncements remain rhetoric. In some ways the recent budget has done the same with the health sector. There is probably lack of clarity on issues the health sector is facing. We aim at addressing some of these issues in context of health sector and describe how this year's budget has missed the focus.

Mavalankar Dileep et al, (2004): Mavalankar Dileep; Raman Parvathy; Dwivedi Hemant; and Jain M.L: "Managing Equipment for Emergency Obstetric Care in Rural Hospitals," Working Paper No. 2004-03-08, IIM Ahmedabad.

In resource poor countries substantial sums of money, from governments and international donors, are used to purchase equipment for health facilities. WHO estimates that 50-80% of such equipment remains non-functional. This article is based on the experiences from various projects

in developing countries in Asia and Africa. The key issues in the purchase, distribution, installation, management and maintenance of equipment for emergency obstetric care (EmOC) services are identified and discussed. Some positive examples are described to show how common equipment management problems are solved.

Bhat Ramesh and Saha Somen (2004): "Financing Issues in Proposed HIV/AIDS Intervention of Providing Anti-retroviral Drugs to Selected Regions in India," Working Paper No. 2004-05-01, IIM Ahmedabad.

The development of antiretroviral therapy has given a new hope for people living with acquired immuno deficiency syndrome. In the face of increased disease burden due to HIV the global and political commitment towards controlling the pandemic has received renewed thrust in recent times. The Government of India has initiated antiretroviral treatment as a part of national public health programme in the six high-prevalence states. The aim of the paper is to provide the programme planners and other stakeholders, information about the impact of initiating antiretroviral therapy programme in the country. The paper discusses the global commitment towards fighting the disease in the light of the development in affordability and accessibility of antiretroviral drugs therapy. The paper highlights the importance of infrastructure and logistic requirement for developing a comprehensive treatment programme for the affected population in India. Finally, the paper has drawn broad financial implications of the antiretroviral therapy under different treatment scenarios. The estimated financial requirement for treatment vary from Rs. 92 crores per annum if focusing on 400,000 HIV/AIDS cases to identify patients requiring ARV Therapy to 1008 crores per annum if all 4 million patients are screened for coverage. Against this NACO has allocated total of Rs. 113 crores for treatment part of the proposed intervention. Even under the most conservative estimate achieving the treatment target in India with the proposed programme budget will be a Challenging task.

Bhat Ramesh et al, (2004): Bhat Ramesh; Maheshwari Sunil Kumar; and Saha Somen: "Treating HIV/AIDS Patients in India with Antiretroviral Therapy: A Management Challenge," Working Paper No. 2004-06-03, IIM Ahmedabad.

India stands at a critical junction of HIV pandemic. Controlling spread of HIV is critical. Ignoring this will lead millions of Indians in grip of this pandemic. Ever since HIV/AIDS was acknowledged as a problem, the strategies to address the issue have focused on prevention, treatment and research. This paper discusses the treatment aspect. With currently available antiretroviral agents, eradication of HIV infection is not likely. The aim of treatment is thus to prolong and improve the quality of life by maintaining maximal suppression of virus replication for as long as possible. Brazil has shown how to implement antiretroviral therapy programme. India has embarked upon an ambitious programme to introduce antiretroviral therapy in six high prevalent states and the national capital. The paper discusses the technical, management and financing challenge in implementing this intervention.

Bhat Ramesh and Babu K Sumesh (2003): "Health Insurance and Third Party Administrators: Issues and Challenges," Working Paper No. 2003-05-02, IIM Ahmedabad.

With the growth of private voluntary insurance in the unregulated healthcare market, costs of healthcare are likely to go up. Managed care organisations in many developed countries play important role in containing costs. The Insurance Regulatory and Development Authority (IRDA) has paved the way for insurance intermediaries such as third part administrators (TPAs) which are going to play pivotal role in setting up managed care systems. TPAs have been set -up with the objective of ensuring better services to policyholders and mitigate some of the negative consequences of private health insurance. However, given the demand and supply side complexities of private health insurance and health care markets, insurance intermediaries face challenging tasks to achieve these objectives. Right in the early stages of its development IRDA has defined the role of TPAs to manage claims and reimbursements. Their role in controlling costs of health care and ensuring appropriate quality of care remains less defined.

Mavalankar Dileep et al, (2003): Mavalankar Dileep; Ramani K.V; and Shaw Jane: "Management of RH Services in India and the Need for Health System Reform," Working Paper No. 2003-09-04, IIM Ahmedabad.

For the last ten to fifteen years, a comprehensive agenda of health sector reforms and health systems development has engulfed the health system in many countries in structural and organizational changes. Experience with varying degrees and types of reforms have now been reported from many countries. In our paper, we begin by describing some important issues facing the management of RH programs in India, based on our research done in a few states over the last five years. The failures in the management of RH services are complex and multi-factorial, and cannot all be addressed through health system reform. It is therefore necessary to identify which failures in service are attributable to causes, which could be removed or changed by reform in the health system. In our paper, we identify those failures and causes which could be corrected through health system reforms and propose certain concrete steps to expedite the reforms in the health system to enable the improvement of RH services in India.

Ramani K.V (2002): "E-Governance for ESI Hospitals: Costing of Medical Services at ESI Hospital, Bapunagar," Working Paper No. 2002-10-04, IIM Ahmedabad.

The Employees' State Insurance Corporation (ESIC) of India is one of the largest social security organizations providing medical insurance cover and delivering of medical care to 35 million beneficiaries through 140 hospitals and 1500 dispensaries. The objectives of this study are to understand the costing of medical care at ESI hospitals and suggest systems for e-governance to facilitate the coordination between ESIC, ESIS and the beneficiaries. Towards this, we selected a large ESI hospital, namely, the ESI General Hospital at Bapunagar, Ahmedabad and gained very useful insights about the systems currently in practice for offering medical benefits to the insured persons and their beneficiaries. This working paper brings out our detailed analysis of the working of ESI hospital, Bapunagar in delivering medical care under the ESI scheme.

Mavalankar D. V (2001): "Policy Barriers Preventing Access to Emergency Obstetric Care in Rural India," Working Paper No.2001-11-02, IIM Ahmedabad.

India with its one billion people contributes to about 20% of all maternal deaths in the world. Even though infant mortality has declined in India maternal mortality has remained high at about540 per 100,000 live births. Recent scientific evidence shows that access and use of high quality emergency obstetric care is the key to reducing maternal mortality and that high risk approach in antenatal care do not help in reducing maternal mortality significantly. This paper analyzes the policy level barriers, which restrict access of rural women to life saving emergency obstetric care in rural India. The paper is based on study of policies, research reports and experience of working in the area of maternal health over last several years. The paper describes how policies restrict basic doctors from performing obstetric surgical procedures including cesarean section even in remote areas where there is no specialist obstetrician available. The para-medical staff such as the Auxiliary Nurse Midwife is also not allowed to manage obstetric emergencies in rural areas. The policy also does not allow nurses or basic doctors to give anesthesia. As there is limited number of anesthetists in rural areas, this further reduces access to life saving emergency surgery. New blood banking rules are very utopian, requiring many unnecessary things for licensing of a blood bank. Due to this, already limited access to blood transfusion in rural area has further reduced. Thus many restrictive polices of the government have made emergency obstetric care inaccessible in rural areas leading to continued higher maternal mortality in India.

Chapter 4
Abstract of Chapters in Books

Raman Parvathy et al, (2010): Raman Parvathy; Mavalankar Dileep; Kulkarni Arvind; Upadhyaya Mudita; Deodhar Anita: "Historical perspective of Nursing and Midwifery: Training, Education and Practice In India" , *Midwifery and Maternal Health In India : Situation Analysis and Lessons From The Field,* by Leela Visaria (ed.), IIMA, pp 3-13.

India has progressed rapidly on several socio economic indices since Independence, but improvement in maternal health indicators has been slow. Like many other developing countries India also faces dearth of skilled birth attendants (SBA) to assist normal deliveries. The quality of nursing and midwifery education deteriorated over a period of time which has partly contributed to the shortage of skilled birth attendants at the health facilities. The maternal mortality rate is high at 274 per 100,000 live births and more than 60 percent of deliveries occur at home without skilled assistance at birth. The various committees and commissions appointed by government of India and international agencies agree that there is a need to develop strong nursing and midwifery services in rural areas where there is a paucity of skilled manpower. The Millennium Development Goal 5 clearly specifies the crucial role of midwives and other allied persons for improving maternal health. The objective of this chapter is to explore the historical relevance of nursing and midwifery in India from the time of its origin to current position and to understand the development of these professions. It is based on secondary literature review, in depth interviews of key nursing leaders and practitioners, and a review of Government policy documents and reports of various commissions. While doing the desk review of nursing and midwifery education/services in the country, stress was laid on the midwifery component. In addition, various websites and government policy documents were also reviewed. In depth interviews were also carried out of the office bearers of the Indian Nursing Council, and of state nursing councils of Gujarat, West Bengal, Andhra Pradesh, Delhi and Maharashtra and of the office bearers at Trained Nurses Association of India (TNAI) both at the national and state levels. Desk review was a bit difficult because official records of nursing institutions were many times unreadable. Also some of the senior nursing personnel could only share information pertaining to the states they worked in.

Sharma Bharti et al,(2010): Sharma Bharti; Mavalankar Dileep; Kulkarni Arvind; Deodhar Anita; Patidar Jasu: "Role of Nursing Council In regulating Nursing and Midwifery Education, Training and Practice in India", *Midwifery and Maternal Health In India : Situation Analysis and Lessons From The Field,* by Leela Visaria (ed.), IIMA, pp 14-30.

The growth of a profession, its recognition amongst other related professions and the level of autonomy it enjoys depend among other factors on how well it is regulated internally through mechanisms such as peer reviews, certification and licensing. Autonomy is one of the characteristics that distinguish a profession from an occupation and it is the goal towards which occupations aspiring for professional status strive to reach. Professions are usually regulated by professional bodies that may set standards of training and competencies, act as licensing authorities for practitioners, and enforce adherence to an ethical code of practice. For example, Medical Council of India (MCI) sets standards for medical colleges and registers practitioners

who can carry out medical practice. In India nursing and midwifery taken together (as midwifery is not a separate profession) seem to fulfill many of the criteria of professions. The professional bodies such as the Trained Nurses Association of India (TNAI) and the Society of Midwives of India (SOMI) provide collective professional identity and contribute to the professional development of the nurses and midwives. The legal system and the government act as controlling bodies especially for the practice of nursing and midwifery and the unions play a role in safe guarding the welfare of nurses and to ensure a good work environment. We review the structure and role of the nursing councils as regulatory bodies, their strengths and weaknesses to facilitate the development of nursing and midwifery education, training and practice in India.

Bagga Rajni et al,(2010): Bagga Rajni; Shehrawat Renu; Gade Jyoti; Nandan Deoki; Mavalankar Dileep; Sharma Bharti ;Sherin Raj T.P: "Comparative analysis of Nursing Management capacity In the states of Uttar Pradesh, West Bengal and Tamilnadu" ***Midwifery and Maternal Health In India : Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 31-47.**

Nurses and Midwives are the backbone for the delivery of effective quality care of MCH services, so their major contribution for health care development and for achievement of the Millennium Development Goals is extremely crucial. The available research provides strong indication for inherent potential of nursing professionals. Though the High Power Committee report (1987) has listed the main recommendations for strengthening the nursing management capacity, there is gap in actual translation. Therefore, a strong support at the policy level is needed to ensure policy implementation of the key recommendations of the earlier reports. It is important to identify the best practices of different states in order to develop a mechanism for their sharing and replication in other states. Organizing effective nursing care for maternal and child health in the health care institutions and at the community level, needs good management and administrative practices. The present study, proposed in three states of India i.e. Uttar Pradesh, West Bengal and Tamil Nadu, was undertaken to describe, besides the current nursing organizational/administrative structure, the key nursing management issues at the State Directorate, teaching institutions, health care institutions and other nursing professional bodies. The study is aimed to identify the bottlenecks and gaps in the nursing management capacity and delivery of services at all the levels. Objectives The overall objectives of the study were to review the current nursing and midwifery organizational/administrative structure and to obtain a perspective to strengthen nursing management capacities to address maternal health issues appropriately.

Sharma Bharti et al, (2010): Sharma Bharti; Roy Sweta; Mavalankar Dileep; Ranjan Pallavi; Trivedi Poonam: "The District Public Health Nurses: A Time and Activity study from Gujarat", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 48-68.**

Public health nursing in India began as a small initiative with health visitors training in 1921 in Delhi. Training in public health nursing started with a diploma course in public health in the Rani Amrit Kaur College of Nursing, New Delhi in 1951, on the recommendation of the Bhore Committee. This study was taken up with the objective to understand and define the current role of the DPHN, and how her role as a mentor and guide for the midwives working at the periphery

could be improved. The study assessed the work pattern and work load of the DPHNs and the perceptions of their supervisors about their role. Two districts from each of the 6 regions were selected depending on the availability of DPHNs and DPHNOs. DPHNs & DPHNOs were observed for 6 working days in continuation, from Monday to Saturday during March to October 2008 with a break during July due to heavy monsoon. It was observed that although the DPHN/DPHNO has three designated functions- administration, supervision and education – they need to be made more practical and task oriented in the present context of RCH and NRHM The study recommends that for their professional growth the DPHNs need newer skills in supervision, management, leadership and team building, including in public health and health statistics, NRHM and health sector reform, and computer and MIS training. The study also recommends that the district health office should recognize the contribution and work of the DPHNs by providing them proper offices, and use of vehicles whenever they need them.

Sharma Bharti and Mavalankar Dileep (2010): "Towards Midwifery Based Maternal Care: A Roadmap for India", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field*****, by Leela Visaria (ed.), IIMA, pp 69-86.**

In this chapter we discuss and suggest reforms in pre-service training of nurse midwives and the support required at the work place in order to professionalize midwifery services for effective maternal health with a focus on quality of training. The suggested road map has emerged from the understanding of the situation in India and what has been suggested by experts internationally, especially the International Confederation of Midwives (ICM) and the World Health Organization (WHO). The suggestions of the partners of the project, teachers and principals of schools and colleges of nursing from several states and some registrars of state nursing councils have been included in the suggested road map. The chapter is broadly divided in four sections. In the first section we examine the evidence of the positive role of midwives in maternal health internationally, and some of the models of midwifery training and education existing in other countries that may offer lessons for India. The second section discusses the situation of maternal health and midwifery in India. The third section discusses the pre-service training and the work situation of the Auxiliary Nurse Midwife/Multipurpose health worker female (ANM/MPHWF). It also describes and critically looks at the new initiatives by the government of India under the National Rural Health Mission (NRHM) for the in-service training for midwives on life saving skills. In the fourth section we discuss the pre-service training under the diploma course in General Nursing and Midwifery (GNM) and the degree course in nursing and midwifery after which the candidates get registered as Registered Nurse (RN) and Registered Midwife (RM). It provides a road map for improving the pre-service training of the Nurse-midwives.

Vora Kranti et al, (2010): Vora Kranti; Mavalankar Dileep; Ramani K.V; Upadhyaya Mudita; Sharma Bharti; Iyengar Sharad; Gupta Vikram; Iyengar Kirti: "Maternal Health Situation In India: A Case Study", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 165-92. (Ref, Vora Kranti S et al, 2009, Chapter 2 on Journal Articles)**

Mavalankar Dileep et al,(2010): Mavalankar Dileep; Vora Kranti; Ramani K.V; Raman Parvathy; Sharma Bharti; Upadhyaya Mudita: " Maternal Health In Gujarat, India: A Case Study", *Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field*, by Leela Visaria (ed.), IIMA, pp 193-214. (Ref, Mavalankar Dileep V et al, 2009, Chapter 2 on Journal Articles)

Puwar Tapasvi et al, (2010): Puwar Tapasvi; Raman Parvathy; Mavalankar Dileep: "Situational Analysis of Reporting and Recording of Maternal Deaths In Gandhinagar District: Gujarat State", *Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,* by Leela Visaria (ed.), IIMA, pp 275-88. (Ref, Puwar Tapasvi et al, 2009, Chapter 3 on Working Papers)

Raman Parvathy et al, (2010): Raman Parvathy; Sharma Bharti; Mavalankar Dileep; Upadhyaya Mudita: "Operationalization of First Referral Units in Gujarat", *Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,* by Leela Visaria (ed.), IIMA, pp 306-31.

India has made noteworthy progress in the field of public health since Independence; however MMR at 254 and infant mortality rate at 57 per 1000 live births are unacceptably high. Emergency Obstetric Care (EmOC) is crucial for preventing maternal deaths for which the policy has been to establish First Referral Units (FRUs). This explorative type study which uses qualitative methods, aims to assess the technical and managerial capacity at the facility, state and district level for planning and implementing FRUs and monitoring the quality of EmOC services and suggest ways to improve their functioning and enhance the management capacity. Nineteen facilities from 6 districts from each administrative region of Gujarat were studied. Observation checklists, semi-structured interviews with service providers were used to collect data. It was observed that even though the concept of FRUs for EmOC has been a policy since 1992, detailed implementation strategy and guidelines were developed only in 2003. It was noted that government health institutional network is fairly good, yet the infrastructure is incomplete, especially in the labor rooms. Staffing of EmOC centers has been neglected in the past but now the government of Gujarat is making efforts to ensure availability of trained staff, yet it is still inadequate. It was observed that the available staffs are not qualified, many a times they do not have skills for managing obstetric complications, though there are nurse-midwives available, there is no cadre of midwives dedicated for maternal health. One of the main limitation for operationalization of FRUs is attributed to the limited management capacity at all levels (state, regional and district). It was noted that the management and administrative control of FRUs is divided amongst two directorates in Gujarat raising issues of accountability. It was also noted that the management information system of the health department does not capture the functioning of FRUs, maternal deaths occurring both in and out of institutions are not recorded and monitored systematically.

Gupta Mona et al, (2010): Gupta Mona; Mavalankar Dileep; Trivedi Poonam; Ramani K.V: "Management of Referral System for EmOC In Gujarat", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA , pp 332-52.**

Almost 60% of maternal deaths in India occur due to obstetric complications. Delay in reaching a health facility is one of "the three delays" for high MMR in many developing countries. Lack of transportation coupled with financial constraints also delay decisions to seek adequate and timely care. Poor communication between referral facilities for necessary follow-up further aggravates the situation. A functioning and affordable referral service system for easy access to Emergency Obstetric Care (EmOC) is necessary to reduce MMR. Many studies on EmOC in developing countries have stressed the importance of referral transport and communication. In the Indian context, very few studies are known to be conducted on exclusive referral transport for EmOC services. In this paper we followed the framework suggested by Murray: an adequately resourced referral Center (meaning adequate staff, equipment, supplies, budget, managers etc,) communications and feedback systems, designated transport, agreed setting –specific protocols for the identification of complications, personnel trained in their use, teamwork between referral levels, unified records system, mechanism to ensure that patients do not bypass a level of the referral system.

Ramani K.V et al, (2010): Ramani K.V; Mavalankar Dileep; Govil Dipti: "Study of Blood-Transfusion Services in Maharastra and Gujarat States, India", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 353-70. (Ref, Ramani K V et al, 2009, Chapter 2 on Journal Articles)**

Mavalankar Dileep and Sriram Veena (2010): "Provision of Anaesthesia Services for Emergency Obstetric Care through task Shifting In south Asia", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 391-406. (Ref, Mavalankar Dileep and Sriram Veena, 2009, Chapter 2 on Journal Articles)**

Mavalankar Dileep et al, (2010): Mavalankar Dileep; Singh Amarjit; Patel Sureshchandra; Desai Ajesh; Singh Prabal :"Saving Mothers and Newborns Through An Innovative Partnership with Private Sector Obstetricians: Chiranjeevi Scheme of Gujarat, India", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 407-22.(Ref, Mavalankar Dileep et al, 2009, Chapter 2 on Journal Articles)**

Padmanaban P et al, (2010): Padmanaban P, Raman Parvathy, Mavalankar Dileep: "Innovations and Challenges in Reducing Maternal Mortality in Tamil Nadu, India", ***Midwifery and Maternal Health in India: Situation Analysis and Lessons From The Field,*** **by Leela Visaria (ed.), IIMA, pp 437-463.(Ref, Padmanaban P et al, 2009, Chapter 2 on Journal Articles)**

Mavalankar Dileep (2008): "National Rural Health Mission: A Brief Introduction", ***Strategic issues and Challenges in Health Management,*** **by K.V. Ramani, Dileep Mavalankar, and Dipti Govil (eds.), pp 139-50.**

The united progressive Alliance (UPA) government elected to power in May 2004 promised to increase government health expenditure from 1 percent to 2-3 per cent. This was a major political commitment to reversing the decline in public expenditure on health by India that had been occurring over the last several years. To implement this major investment in health, the union cabinet approved the ministry of health and family welfare's proposal on 4 January 2005 to set up a special programme called the National rural Health Mission (NRHM) that would extend from 2005-12. In India, the word 'Mission' is used for a high–powered special programme generally backed by a high level of political commitment to achieve specific developmental objectives in a rapid and time-bound manner. For example, in past there has been a telecom mission which helped spread availability of telecommunication in rural areas. NRHM was to have a preparatory phase from January to march 2005, during which the basic design of the programme was developed. NRHM was officially launched by the Prime minister on 12 April 2005.

Ramani, K.V et al, (2008): Ramani K.V; Mavalankar Dileep; Patel Amit; Mehandiratta Sweta: "Managing Urban Health through Public Private Partnership: A Study of Ahmedabad City", **Strategic** ***issues and Challenges in Health Management,*** **by K.V. Ramani, Dileep Mavalankar, and Dipti Govil (eds.) pp 173-84.**

The world's urban population, which accounted for 2 per cent of the population in 1800, increased to nearly 45 per cent of the population by 2000.Today, nearly half the world's population is urban and the urban population is growing by 60 million persons per year, which is about three times the rate of increase in the rural population. India's urban population of 285 million represents 28 per cent of its total population. In the 1991-2001 decade, while the India population grew at the rate of 2 per cent, urban India grew at 3 per cent, mega cities at 4 per cent and the slum population increased by 5 per cent. This is commonly referred to as the 2-3-4-5 syndrome. The current slum population in India is estimated to be 60 million people, accounting for 21 per cent of the total urban population as per official data. Population projections postulate that slum growth in the future is expected to surpass the capacities of civic authorities to respond to the health and infrastructure needs of this population group. Many recent studies have warned about the possible dangers if increasing prevalence rates the communication diseases, especially HIV/AIDS in urban areas, if proper attention is not paid to urban planning. Urban health has therefore emerged as a priority in recent government of India policies and plans. In this paper we discussed managing urban health through Public Private Partnership for Ahmedabad city in Gujarat.

Ramani, K.V. (2005): "Health Care Issues in large federal countries: Conclusion", in Rajeev D. Pai and R. Swaminathan (eds.) New Delhi: Observer Research Foundation, pp 161-74.

Several Issues are discussed in this compilation, which provides a framework for further discussion, in order to improve the delivery of healthcare services. The proposed framework is aimed at addressing the issues on governance such as Autonomy, Public-Private Partnership, and Management Reporting. Autonomy which offers decision making powers comes with accountability for all the actions taken. There is a need to design systems with autonomy for managing human resources, financial resources and materials. Our health sector is obsessed with setting targets, and in the process the emphasis on quality in service delivery gets diluted. Public private partnership requires a clear understanding of the strengths and weaknesses of both the public and private sectors, and a regulatory mechanism for managing and sustaining the PPP. Outsourcing is not about doing away with responsibilities for service delivery, it requires continuous monitoring to ensure good quality service delivery by the outsourced party. Above all, good governance and effective management require performance monitoring and reporting over and above the statutory needs for reporting.

Manikutty, S. and Vohra, Neharika (2004): "Aravind Eye Care System", in C.K.Prahlad (ed.), ***the Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits,*** **Michigan, USA, pp 265-86.**

Motivated by the vision to eradicate all needless blindness in India, Arvind Eye Care System embarked on a series of innovations to bring worlds- class eye care to the poorest people in rural and urban India. Focusing on innovations in the organization of workflow- from patient identification to postoperative care – Arvind has built the world's premier eye care institution. It is the largest eye care system in the world. It is also the most productive, and boasts world- class outcomes rates. Beginning in 1976 with a modest 11- bed private clinic in Dr. V's brother's house in Madurai, with a mission of eradicating needless blindness, his dream, by 2003, had grown into the Arvind Eye Care System. It was not merely a chain of hospitals, but an eye care system consisting of a center for manufacturing synthetic lenses, sutures, and pharmaceuticals related to eye care; an institute for training; an institute for research; an international eye bank; a women and child care center; a postgraduate institute of ophthalmology awarding MS degrees and offering fellowship programs; and a center for community outreach programs. The Arvind Eye Hospital (AEH) at Madurai had grown to a 1,500 bed hospital performing nearly 95,000 eye surgeries every year. In addition to Madurai, there are four more AEHs located at Tirunelveli, Coimbatore, Theni, and Pondicherry. The five hospitals together perform a total of 190,000 surgeries every year, or nearly 45 percent of all eye surgeries performed in the state of Tamil Nadu and 5 percent of total in India.

Ramani, K.V. and Lakhia, T.S. (2001): "Hospital Logistics: Activity Based Costing for Hospital Services," ***Proceedings of the International Conference on Integrated Logistics, Logistics,*** **Singapore, pp 359-64.**

Hospital logistics deals with planning for the delivery of quality hospital services at low cost. Costing of hospital services is a very complex process, as every service is a combination of

several activities, each activity consuming a variety of resources. Traditional costing methods, still followed in many hospitals around the world, do not allocate the costs of providing services in proportion to the sources consumed in the delivery of services. Distortions thus arise in estimating the costs of services that lead to distortions in the pricing of such services. Activity Based Costing (ABC) method offers a good alternative for estimating the costs of products and services. In the ABC method, the cost of a product/service is computed as the sum of the costs of all the required activities, which in turn is derived from the cost of resources consumed for producing and delivering the product/service. In this paper we describe ABC methodology to estimate the cost of surgical operation theatre services in hospitals.

Chapter 5
Abstract of Case Studies

Sanjay Joshi et al, (2009): Sanjay Joshi; Ramani K. V; Mavalankar Dileep: "YASHODA Interventions."

Yashodas in the maternity wards are a source of support to women at the time of childbirth. Yashodas ensure that mothers and newborns stay for at least 48 hours at the institution so that health care services such as immunization, nutrition and hygiene are provided. The case highlights the issues faced by Yashodas and the hospital management in having a new post in the maternity ward. The case can be used to discuss the role of Yashodas vis-à-vis the role of other staff in the maternity ward in improving the quality of care for the mother and the neonates.

Mukesh Prajapati et al, (2009): Mukesh Prajapati; Mavalankar Dileep; Ramani K.V: "Sick Newborn Care Unit".

There has been a noted increase in the number of institutional deliveries in all District Hospitals after implementation of the Janani Suraksha Yojana. Increased institutional deliveries increase the load of care for the newborns especially the sick newborns. Hence, Intensive New Born Care Units are being established at District hospitals under NRHM as per norms set by the National Neonatology Forum of India. The case study can be used to discuss the challenges in setting up such units based on the learning from the existing intensive new born care units, and the need to develop monitoring indicators.

Sanjay Joshi et al, (2009): Sanjay Joshi; Ramani K.V; Mavalankar Dileep: "Village Health Nutrition Day".

Inter-sectoral convergence between Health and Nutrition activities is the focus of the Village Health Nutrition Day (VHND) program under NRHM of the Ministry of health and family Welfare, Government of India. The ASHAs, Angan Wadi Workers, Auxiliary Nurse Midwives and the Panchayati Raj Institute members work as a team to ensure that services are provided on the VHND. The case can be used to discuss the challenges in convergence between various government departments in planning the services to be offered on the VHND, generating demand for the services through IEC / counseling and actually providing services on the VHND.

Sanjay Joshi et al, (2009): Sanjay Joshi; Ramani K.V; Mavalankar Dileep: "Universal Immunization Programme".

Immunization is one of the cost effective interventions to prevent a series of major illnesses particularly in environments where children are undernourished and may die from preventable diseases. The status of child immunization is a good indicator of equity, accessibility and outreach of healthcare services. In India, the Universal Immunization Program was launched in 1985 and has been achieved a coverage of 43.5% by 2005-06 as per NFHS 3. The case is helpful

to discuss issues of planning, demand generation, logistics management and dealing with adverse effects. Team approach to providing immunization services can also be discussed.

Mavalankar Dileep et al, (2009): Mavalankar Dileep; Ramani K.V; Kumar Harish: "Measles: An ignored Disease in India?"

Measles is a contagious disease. It can be prevented by immunizing children between 9-12 months. The case details the efforts to provide immunity against measles, the importance of surveillance and the need to provide adequate care for those afflicted by measles. The case will be helpful to discuss why there is a drop in numbers from DPT 3 to measles and what strategies can be developed to address improving the numbers who receive measles.

Ramani K. V (2009): "Majestic Hospitals: Inpatient Discharge". (IIMA/CMHS0004)

This case brings out the processes and procedures followed for hospital patient discharge. Concerns from the hospital management and the patient's family are also highlighted. The case analysis should focus on causes for delay in patient discharge and offer suggestions/recommendations to address unnecessary delays.

Mavalankar Dileep et al, (2008): Mavalankar Dileep; Ramani K. V; and Srivastava Amit Kumar: "Family Planning in Bihar". (IIMA/CMHS0001)

Since 1951, Government of India is trying to control the population and its consequences through different family planning activities. Bihar, one of the most populous and backward states in India, is also taking initiatives to control the population and its aftermath. However, due to socio-economic backwardness of the state and other reasons, there has been less encouraging results during RCH I. Government of Bihar has adopted public private partnership during RCH II to gear up the family planning activities which include conducting awareness programmes, developing health infrastructure, and adopting innovative methods to involve men in family planning.

Mavalankar Dileep et al, (2008): Mavalankar Dileep; Ramani K. V; and Srivastava Amit. Kumar: Free Drug Distribution System in Bihar". (IIMA/CMHS0002)

Government is the largest provider of health services in Bihar, but it has a long history of non-performance. With the change of government, the state decided to provide medicines free of cost for most common ailments to outdoor and indoor patients in all government health facilities. The purpose was to improve the health standard of deprived people of the state and to rejuvenate the public health system. Efforts to streamline drug procurement and distribution were made though rate contracting and 'cash & carry system'. The result of the improved free drug distribution system is very encouraging but there is scope for further improvement.

Mavalankar Dileep et al, (2008): Mavalankar Dileep; Ramani K. V; Sharma Bharati; Shah Amar; Upadhaya Mudita; and Gupta Mona: "Janani Evam Bal Suraksha Yojana: The Scheme for Protection of Mother and Child in Bihar." (IIMA/CMHS0003)

The goal of reducing maternal mortality is tracked through the proportion of births to skilled attendants. Janani Evam Bal Suraksha Yojana in Bihar is an initiative in this direction. The current scheme provides cash incentives to all the mothers delivering in any government health facility. The scheme has contributed a lot in adding to the number of institutional deliveries and is expected to help in reducing infant mortality too. The factors contributing to the success of the scheme are cash incentives, availability of doctors, paramedics, and drugs. However, it still has a long way to go to ensure quality of services.

Ramani K. V (2006): "Logical Framework Analysis." (IIMA/PSG0097TEC)

Logical Framework Analysis (LFA) was first formally adopted as a planning tool for overseas development activities by USAID in the early 1970s. Its origins can possibly be traced back to the private sector management. Concept of "Management by Objectives" approach of the 1960s. LFA has since been adopted and adapted as a planning and management tool by a large number of agencies involved in providing developmental assistance. As a planning and management tool, LFA takes the planners through a series of steps to define clearly what the project will accomplish and how. Once the project is on LFA will assist the project managers to plan and monitor resource utilization and project performance. The final output of LFA is LFA matrix which presents a quick overview of inputs, activities, expected results and evaluations plans. It is important to realize that while LFA is a useful tool, the process of designing it is more important that the end product.

Jain A. K et al, (2004): Jain A. K; Sinha Piyush Kumar; and Bhardwaj Preshth: "Planet Health". (IIMA/MAR0353)

Planet Health case is based on a company (Sagar Group of Industries), planning to enter the retail business of pharmacy and health care products. Based on the feasibility study of proposed retail business concept, company has to chalk out the entry strategy plans.

Manikutty S and Vohra Neharika (2004): "Aravind Eye Care System: Giving them the Most Precious Gift". (IIMA/BP0299)

The case describes the vision of Dr. Venkataswamy, the founder of Aravind Eye Hospital at Madurai, Tamilnadu, and the history of its development of places the present activities of what has grown into an eye care system in the context of the eye problems in India especially blindness. The ability of the hospitals to perform free surgeries to the extend of 60% yet keep the prices highly affordable is highlighted, and the profane reasons embedded in the case. The structure and systems are described in detail. The case ends with the future directions and the actions needed to take the hospital further and fulfill Dr. V's vision of "total elimination of needless blindness in India".

Ramani K. V and Chavda Narendrabhai (2004): "Gujarat Cancer Research Institute: (M P Shah Cancer Hospital)". (IIMA/PSG0094)

Gujarat Cancer & Research Institute is facing financial constraints due to increased cost of medical care and a freeze on the grant it receives from the state government. It is therefore necessary to look at avenues for containing the cost of medical care. Accordingly the proposed study would analyze variable costs towards hospital supplies and suggests possible savings.

Ravichandran N (2003): "Revised National Tuberculosis Control Project (RNTCP) Reengineering Drugs Delivery System". (IIMA/Prod- 255)

The case presents the logistics of drug delivery system for TB eradication project (RNTCP). The central issue is how to modify the system to increase its efficiency and relevance. There is enough data in the case to discuss the implementation issues, as well.

Ramani K. V (2003): "AMC Hospitals". (IIMA/PSG0086)

Ahmedabad Municipal Corporation (AMC) administers three large general hospitals namely, VS Hospital, SCL Hospital, and LG Hospital for providing tertiary health care services to its citizens. As teaching hospitals, VS, SCL, and LG Hospitals are bound by the norms laid down by the Medical Council of India (MCI) regarding the staffing or hospital departments and the resources for teaching and patient care. These norms are based on the number of annual student admissions for MBBS and MD courses. Beginning the academic year 2000-01, AMC increased the number of fresh annual admissions to MBBS by 50 seats. The Dean of AMC medical colleges reorganized the clinical department in each hospital to comply with MCI norms for 150 annual admissions per year. The hospital superintendents are concerned about the impact of the reorganizations on patient care.

Ramani K. V and Verma Anupam (2003): "PDHN Hospital OT". (IIMA/PSG0085)

PDHN Hospital is an ultra modern, multi specialty tertiary care hospital. The hospital has a capacity of 350 beds with 90% average occupancy. There are 8 very well equipped operating theaters (OTs), where 30-35 surgeries are performed every day. Management of OT includes preparation of OT schedules, managing the inventory in OT sub stores, OT cost and revenues, etc. Your task as a consultant to PDHN Hospital is to identify all the issues facing the PDHN management in the delivery of OT services and suggest appropriate approaches for the resolution of the managerial issues.

Ramani K. V (2001): "SJ Hospital".(IIMA/CISG0066)

This case deals with the problems faced by a large hospital in developing a Hospital Information System. The case looks at the overall working of the hospital, the existing nature of computer applications, future plans for computerization and the hospital's willingness and preparedness to

design and develop a comprehensive information system. The case focuses on identifying hospital performance indicators, their estimation and the design of reports to help the hospital management deliver their services efficiently and effectively.

Ramani K. V (2000): "MP Trust Hospital". (IIMA/CISG0045)

This case addresses the concerns of a hospital in providing medical care to its patients - both inpatients and outpatients. These concerns have become very serious of late, since the costs for providing quality health care has been increasing in recent few years. Critical success factors for the hospital's performance will have to be identified and an appropriate MIS designed to plan and monitor the hospital performance levels. Care has to be exercised in designing the proposed MIS in order to address the concerns of the hospital authorities as well as the doctors and patients.